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# United States Department of Agriculture,

## DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., *January 31, 1899.*

### MONTHLY LIST OF PUBLICATIONS.

[January, 1899.]

(To obtain those publications to which a price is affixed, application should be made to the Superintendent of Documents, Union Building, Washington, D. C.)

Annual Reports Department of Agriculture for the fiscal year ended June 30, 1898. Pp. lxiii, 212, cloth.

CONTENTS.—Report of the Secretary of Agriculture—Departmental Reports: Assistant Secretary upon the purchase and distribution of seed, Chemist, Entomologist, Acting Chief of the Division of Vegetable Physiology and Pathology, Acting Chief of the Division of Biological Survey, Chief of the Division of Publications, Chief of the Division of Accounts and Disbursements, Director of the Office of Experiment Stations, Pomologist, Chief of Division of Soils, Superintendent of Experimental Gardens and Grounds, Agrostologist, Botanist, Director of the Office of Road Inquiry, Chief of the Section of Foreign Markets, Librarian, Chief of the Division of Forestry, Statistician, Chief of the Bureau of Animal Industry, Chief of the Weather Bureau.

Report of the Director of the Office of Experiment Stations for 1898. By A. C. True. Pp. iii, 103–126. (From Annual Reports Department of Agriculture, 1898.)

The Flat Pea. By F. Lamson-Scribner, Special Agent. Pp. 7. (Circular No. 4, Division of Botany.) Reprint.

The Use of Hydrocyanic Acid Gas for Fumigating Greenhouses and Cold Frames. By Albert F. Woods and P. H. Dorsett. Pp. 10, figs. 3. (Circular No. 37, second series, Division of Entomology.)

Experiments in Range Improvements. By Jared G. Smith, Assistant Agrostologist. Pp. 5, fig. 1. (Circular No. 8, Division of Agrostology.)

Experiments in regrassing cattle ranges in Texas.

Division of Agrostology. By F. Lamson-Scribner, Agrostologist. Pp. iii, 160–175. (Reprint from Yearbook of Department of Agriculture for 1897.)

Lawns and Lawn Making. By F. Lamson-Scribner, Agrostologist. Pp. ii, 355–372, pls. VIII–XIV. (Reprint from Yearbook of Department of Agriculture for 1897.)

Chemical Examination of Canned Meats. By H. W. Wiley, Chemist. Pp. 7. (Circular No. 5, Division of Chemistry.)

Preliminary report of an examination of samples of canned meats purchased in open market and also of samples furnished by officials of the War Department.

Potash and Its Functions in Agriculture. By H. W. Wiley, Chief of the Division of Chemistry. Pp. ii, 107–136. (Reprint from Yearbook of Department of Agriculture for 1896.)



Every Farm an Experiment Station. By Ervin E. Ewell, First Assistant, Division of Chemistry. Pp. ii, 291-304. (Reprint from Yearbook of Department of Agriculture for 1897.)

The Superior Value of Large, Heavy Seed. By Gilbert H. Hicks and John C. Dabney, First Assistant Botanist and Assistant, Division of Botany. Pp. ii, 305-322. (Reprint from Yearbook of Department of Agriculture for 1896.)

Additional Notes on Seed Testing. By Gilbert H. Hicks and Sothoron Key, First Assistant and Assistant, Division of Botany. Pp. ii, 441-452, figs. 3. (Reprint from Yearbook of Department of Agriculture for 1897.)

Agricultural Production and Prices. By George K. Holmes, Assistant Statistician. Pp. ii, 577-606. (Reprint from Yearbook of Department of Agriculture for 1897.)

An Act to Provide for the Construction of Roads by Local Assessment, County and State Aid. Pp. 3. (Circular No. 15, Office of Road Inquiry.) Reprint.

The Forces which Operate to Destroy Roads, with Notes on Road Stones and Problems Therewith Connected. By C. L. Whittle. Pp. 14, pls. 4. (Circular No. 29, Office of Road Inquiry.) Reprint.

Improvement of Public Roads in North Carolina. By Prof. J. A. Holmes, State Geologist and Secretary of the North Carolina Road Improvement Association. Pp. iii, 513-520, pls. 2. (Reprint from Yearbook of Department of Agriculture for 1894.)

Monthly List of Publications, December, 1898. Pp. 4. (No. 309, Division of Publications.)

Legislation Against Weeds. By Lyster H. Dewey. Pp. 60. (Bulletin No. 17, Division of Botany.) Reprint. Price 5 cents.

Vanilla Culture as Practiced in the Seychelles Islands. By S. J. Galbraith. Pp. 24, pl. 1, figs. 2. (Bulletin No. 21, Division of Botany.) Price 5 cents.

Tells how to start a vanillery, prepare the vines for cropping, pollinate the flowers, and cure the pods for market.

The Hessian Fly in the United States. Prepared under the direction of the Entomologist, by Herbert Osborn, Professor of Zoology and Entomology, Iowa Agricultural College, Ames, Iowa. Pp. 58, pls. 2, figs. 8, map. (Bulletin No. 16, new series, Division of Entomology.) Price 10 cents.

A description of the Hessian fly, its life history, distribution, food habits, parasitic enemies, and remedies. Also an account of the serious outbreaks of the fly in spring-wheat regions in the Northwestern States.

Some Miscellaneous Results of the Work of the Division of Entomology. Prepared under the direction of L. O. Howard, Entomologist. Pp. 101, figs. 17. (Bulletin No. 18, new series, Division of Entomology.) Price 10 cents.

A series of short articles, including the record of experiments on drying fruit affected by the San Jose scale; an account of the work against the fluted scale, *Icerya purchasi*, in Portugal; articles on twig pruners and a new borer enemy of the birch; a new coccid on birch; two articles on the periodical cicada, and one on the peach Lecanium.



The Serum Treatment of Swine Plague and Hog Cholera. By E. A. de Schweinitz, Ph. D., M. D., Chief of Biochemic Division, with collaboration of Marion Dorset, M. D., and E. C. Schroeder, M. D. V., under the supervision of D. E. Salmon, D. V. M., Chief of the Bureau. (Bulletin No. 23, Bureau of Animal Industry.) Price 5 cents.

Preliminary experiments in the use of serum for hog cholera and swine plague; results of experiments with serum as a curative agent; preparation of the serum; sources of infection; and advisability of State supervision in the preparation of the serum.

Methods of the Mechanical Analysis of Soils, and of the Determination of the Amount of Moisture in Soils of the Field. Pp. 24, fig. 1. (Bulletin No. 4, Division of Soils.) Reprint. Price 5 cents.

The Alkali Soils of the Yellowstone Valley, from a Preliminary Investigation of the Soils near Billings, Mont. By Milton Whitney and Thos. H. Means. Pp. 39, pls. 17, figs. 3. (Bulletin No. 14, Division of Soils. Price 15 cents.

Results of investigations of the alkali soils of the Yellowstone Valley, showing the origin of the alkali salts, formation of soils, method of determining the soluble content of soils, rainfall and seepage, salt content of the soils, and underground mapping of the soil areas.

Changes in the Rates of Charges for Railway and other Transportation Services. Prepared under the direction of John Hyde, Statistician, by H. T. Newcomb, Chief of the Section of Freight Rates in the Division of Statistics. Pp. 80. (Bulletin No. 15, miscellaneous series, Division of Statistics.) Reprint. Price 5 cents.

Dietary Studies in Chicago in 1895 and 1896. Conducted with the Cooperation of Jane Addams and Caroline L. Hunt, of Hull House. Reported by W. O. Atwater and A. P. Bryant. Pp. 76. (Bulletin No. 55, Office of Experiment Stations.) Price 5 cents.

Report of dietary studies among families of Italians, French Canadians, Russian Jews, and Bohemians, showing the conditions of living and the pecuniary economy of the food of the poor of different nationalities residing in the worst congested districts of Chicago.

Experiment Station Record, Vol. X, No. 4. Pp. viii, 301-400. Price 10 cents.

Experiment Station Record, Vol. X, No. 5. Pp. vi, 401-500. Price 10 cents.

The Record contains numerous abstracts of the publications of the agricultural experiment stations and kindred institutions in this and other countries; articles and editorials on topics of special interest in agricultural science by American and foreign experts; and notes on the experiment stations.

NOTE.—For the convenience of those who desire to receive this publication regularly the Superintendent of Documents has decided to fix the price per volume (12 numbers) beginning with Vol. VIII, at \$1, payable in advance.

#### FARMERS' BULLETIN.

Thirty Poisonous Plants of the United States. By V. K. Chesnut, Assistant Botanist, U. S. Department of Agriculture. Pp. 32, figs. 24. (Farmers' Bulletin No. 86.)

Descriptions of thirty of the most important poisonous plants, their poisonous character, localities where found, and symptoms of poisoning.



## PUBLICATIONS OF THE WEATHER BUREAU.

(For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.)

The Probable State of the Sky Along the Path of the Total Eclipse of the Sun, May 28, 1900. Prepared under direction of Willis L. Moore, Chief of Weather Bureau, by Frank H. Bigelow, Professor of Meteorology. Pp. 6, chart 1.

Instructions for Voluntary Observers. Prepared under the direction of Willis L. Moore, Chief of Weather Bureau. Pp. 23, figs. 9.

Monthly Weather Review. October, 1898. Vol. XXVI, No. 10. Pp. 439-492, charts 11. Price 10 cents.

Monthly Weather Review. November, 1898. Vol. XXVI, No. 11. Pp. 493-525, charts 12. Price 10 cents.

## Charts of the Weather Bureau—

Snow and Ice Charts for Monday, January 2, 9, 16, 23, and 30.

(These charts are issued weekly on Tuesdays during the winter season, based upon data from regular Weather Bureau Stations, supplemented by reports from selected voluntary observers.)

Climate and Crop Bulletin (series of 1898), reporting temperature and rainfall, with special reference to their effect on crops. (No. 31, for the month of December, 1898.)

Meteorological Chart of the Great Lakes. (Summary for the year 1898 of the storms on the Lakes, the number of disasters, lives lost, values of vessels and causes of the disasters. Also a statement showing the relative frequency of fogs during the season of navigation—April 1 to December 15.)

## PUBLICATIONS NOT AVAILABLE.

(The following publications were printed during January, but the editions were limited and no copies are now available for distribution by the Department.)

The San Jose Scale on Dried Fruit. By L. O. Howard. Pp. 7-13. (Reprint from Bulletin 18, new series, Division of Entomology.)

A New Coccid on Birch. By H. G. Hubbard and Th. Pergande. Pp. 13-29, figs. 1-10. (Reprint from Bulletin 18, new series, Division of Entomology.)

A Destructive Borer Enemy of Birch Trees, with Notes on Related Species. By F. H. Chittenden. Pp. 44-51, figs. 15-17. (Reprint from Bulletin 18, new series, Division of Entomology.)

GEO. WM. HILL,  
*Chief.*

Approved:

JAMES WILSON,  
*Secretary.*



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# United States Department of Agriculture,

## DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., *February 28, 1899.*

### MONTHLY LIST OF PUBLICATIONS.

[February, 1899.]

[See accompanying notes regarding Department publications.]

Special Report on the Market for American Horses in Foreign Countries. Pp. 94, pls. 6. (Printed by authority of Congress.)

A report on the American export trade in horses, descriptions of the kinds of horses needed in European countries, and suggestions to American breeders as to breeding horses for foreign markets. Compiled principally from reports of United States consular officers.

New Species of North American Grasses. By F. Lamson-Scribner, Agrostologist. Pp. 7. (Circular No. 9, Division of Agrostology.)

Description of 14 new species of grasses belonging to the genus *Poa*.

National and State Dairy Laws. Compiled and abstracted by R. A. Pearson, B. S., Assistant Chief of Dairy Division. Pp. iii, 531-708. (Reprinted from the Fourteenth Annual Report of the Bureau of Animal Industry.) Reprint.

The Section of Seed and Plant Introduction. By O. F. Cook, Special Agent in Charge of Seed and Plant Introduction. Pp. 6. (Circular No. 16, Division of Botany.)

Details of the plans under which the work of plant introduction is to be conducted.

The Use of Hydrocyanic Acid Gas for Fumigating Greenhouses and Cold Frames. By Albert F. Woods and P. H. Dorsett. Pp. 10, figs 3. (Circular No. 37, second series, Division of Entomology.) Reprint.

Land Grant and other Colleges and the National Defense. By Charles W. Dabney, Ph. D., President of the University of Tennessee. Pp. 15. (Circular No. 40, Office of Experiment Stations.)

An address delivered before the Association of American Colleges and Experiment Stations at Washington, D. C., November 15, 1898.

Progress in Timber Physics: Influence of Size on Test Results; Distribution of Moisture. By B. E. Fernow, Chief of Division of Forestry. Pp. 20. (Circular No. 18, Division of Forestry.) Reprint.

Progress in Timber Physics: Bald Cypress (*Taxodium distichum*). By Filibert Roth, Division of Forestry. Pp. 24. Quarto. (Circular No. 19, Division of Forestry.) Reprint.



Publications of the U. S. Department of Agriculture for sale by the Superintendent of Documents, Union Building, Washington, D. C. Corrected to February 1, 1899. Pp. 33. (No. 179, Division of Publications—5th edition.)

Monthly List of Publications, January, 1899. (No. 315, Division of Publications.)

The Pineapple Industry in the United States. By Herbert J. Webber, Assistant in the Division of Vegetable Physiology and Pathology. Pp. 269–282, Pl. IV, figs. 62–67. (Reprinted from Yearbook of U. S. Department of Agriculture for 1895.) Reprint.

The Water Hyacinth, and Its Relation to Navigation in Florida. By Herbert J. Webber. Pp. 20, figs. 4, frontispiece. (Bulletin No. 18, Division of Botany.) Reprint. Price 5 cents.

Organization Lists of the Agricultural Colleges and Experiment Stations of the United States, with a List of Agricultural Experiment Stations in Foreign Countries. Pp. 115. (Bulletin No. 59, Office of Experiment Stations.) Price 10 cents.

A Report on the Work and Expenditures of the Agricultural Experiment Stations for the year ended June 30, 1898. By A. C. True, Director of the Office of Experiment Stations. Pp. 113, pls. 14. (Bulletin No. 61, Office of Experiment Stations.) Price 15 cents.

A Report on Flax Culture for Seed and Fiber in Europe and America. By Charles Richards Dodge, Special Agent. Pp. 80, pls. 4, figs. 5. (Report No. 10, Office of Fiber Investigations.) Reprint. Price 10 cents.

Trade of the Philippine Islands. By Frank H. Hitchcock, Chief, Section of Foreign Markets. Pp. 160, map. (Bulletin No. 14, Section of Foreign Markets.) Price 10 cents.

Accessions to the Department Library. October–December, 1898. (Library Bulletin No. 26.) Price 5 cents.

Texture of Some Important Soil Formations. Pp. 23, pls. 35. (Bulletin No. 5, Division of Agricultural Soils.) Reprint. Price 15 cents.

The Cost of Cotton Production. Prepared under the direction of John Hyde, Statistician, by James L. Watkins, Division of Statistics. Pp. 99. (Miscellaneous Series.—Bulletin No. 16, Division of Statistics.) Price 5 cents.

Shows in detail the cost of production of cotton in each State and Territory.

Information Regarding Road Materials and Transportation Rates in Certain States West of the Mississippi River. Pp. 24, maps 4. (Bulletin No. 5, Office of Road Inquiry.) Reprint. Price 5 cents.

Progress of Road Construction in the United States. Reports by Delegates to National Road Parliament held at Atlanta, Ga., October 17–19, 1895. Pp. 47. (Bulletin No. 19, Office of Road Inquiry.) Reprint. Price 5 cents.



## FARMERS' BULLETINS.

Important Insecticides: Directions for Their Preparation and Use. By C. L. Marlatt, M. S., First Assistant Entomologist. Pp. 32, figs. 3. (Farmers' Bulletin No. 19.) Fourth revised edition. Reprint.

Sweet Potatoes: Culture and Uses. By J. F. Duggar, of the Office of Experiment Stations. Pp. 30, figs. 4. (Farmers' Bulletin No. 26.) Reprint.

Weeds: And How to Kill Them. By Lyster H. Dewey, Assistant Botanist. Pp. 32, figs. 11. (Farmers' Bulletin No. 28.) Reprint.

Silos and Silage. By Charles S. Plumb, B. S., Professor of Animal Industry and Dairying in Purdue University and Director of the Indiana Agricultural Experiment Station. Pp. 32, figs. 10. (Farmers' Bulletin No. 32.) Reprint.

Peach Growing for Market. By Erwin F. Smith, Division of Vegetable Physiology and Pathology. Pp. 24, figs. 21. (Farmers' Bulletin No. 33.) Reprint.

Potato Culture. By J. F. Duggar, of the Office of Experiment Stations. Pp. 24, figs. 2. (Farmers' Bulletin No. 35.) Reprint.

Spraying for Fruit Diseases. By B. T. Galloway, Chief of Division of Vegetable Physiology and Pathology. Pp. 12, figs. 6. (Farmers' Bulletin No. 38.) Reprint.

Onion Culture. By R. L. Watts, B. Agr., Instructor in Horticulture at the University of Tennessee and Horticulturist of the Tennessee Agricultural Experiment Station. Pp. 31, figs. 3. (Farmers' Bulletin No. 39.) Reprint.

Farm Drainage. By C. G. Elliott, C. E., Member of the American Society of Civil Engineers, Peoria, Ill. Revised edition. Pp. 24, figs. 6. (Farmers' Bulletin No. 40.) Reprint.

Facts About Milk. By R. A. Pearson, B. S., Assistant Chief, Dairy Division, Bureau of Animal Industry. Pp. 29, figs. 8. (Farmers' Bulletin No. 42.) Reprint.

Insects Affecting the Cotton Plant. By L. O. Howard, Ph. D., Entomologist. Pp. 32, figs. 18. (Farmers' Bulletin No. 47.) Reprinted, with revision by the author, from Bulletin No. 33, Office of Experiment Stations. Reprint.

The Manuring of Cotton. Condensed from an article by H. C. White, Ph. D., in Bulletin No. 33, of the Office of Experiment Stations. Pp. 16. (Farmers' Bulletin No. 48.)

Sheep Feeding. By John A. Craig, Professor of Animal Husbandry in the University of Wisconsin (under the direction of the Office of Experiment Stations.) Pp. 24. (Farmers' Bulletin No. 49.) Reprint.

Asparagus Culture. By R. B. Handy, Division of Publications. Pp. 40, figs. 17. (Farmers' Bulletin No. 61.) Reprint.

Experiment Station Work-II. Prepared in the Office of Experiment Stations. Pp. 32, figs. 7. (Farmers' Bulletin No. 65.) Reprint.



Forestry for Farmers. By B. E. Fernow, Chief of Division of Forestry. Pp. 48, figs. 15. (Farmers' Bulletin No. 67). (Reprinted from the Yearbooks of the U. S. Department of Agriculture for 1894 and 1895.) Reprint.

Experiment Station Work—III. Prepared in the Office of Experiment Stations. Pp. 32, figs. 2. (Farmers' Bulletin No. 69.) Reprint.

Tomato Growing. By Edward B. Voorhees, M. A., Director of the New Jersey Agricultural Experiment Stations and Professor of Agriculture, Rutgers College, New Brunswick, N. J. Pp. 30. (Farmers' Bulletin No. 76.) Reprint.

The Culture of Tobacco. By Otto Carl Butterweck. Pp. 24. (Farmers' Bulletin No. 82.) Reprint.

Experiment Station Work—VIII. Prepared in the Office of Experiment Stations. Pp. 32, figs. 6. (Farmers' Bulletin No. 87.)

CONTENTS.—Soil moisture—Fertility of soils—Cover crops for orchards—Cultivating *v.* cropping orchards—Transplanting trees—Fecundity of swine—Food value of eggs—Starch from sweet potatoes—The toad as a friend of the farmer.

Alkali Lands. By Milton Whitney and Thomas H. Means. Pp. 23, fig. 1. (Farmers' Bulletin No. 88.)

Results of investigations of alkali soils in Montana, showing that, under certain conditions, the means for the prevention and rise of the alkali and for the reclamation of alkali lands are well within the power of the farmer.

Sewage Disposal on the Farm, and the Protection of Drinking Water. By Theobald Smith, M. D., Professor in Harvard University, Pathologist to the Massachusetts State Board of Health, etc. Pp. 20, figs. 8. (Farmers' Bulletin No. 43.) Reprint.

Meadows and Pastures: Formation and Cultivation in the Middle Eastern States. By Jared G. Smith, Assistant Agrostologist. Revised edition. Pp. 28, figs. 9. (Farmers' Bulletin No. 66.) Reprint.

#### PUBLICATIONS OF THE WEATHER BUREAU.

(For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.)

Frost: When to Expect it and How to Lessen the Injury Therefrom. Prepared under the direction of Willis L. Moore, Chief of Weather Bureau. By W. H. Hammon, Professor of Meteorology. Pp. 37. (Weather Bureau Bulletin No. 23.)

#### Charts of the Weather Bureau—

Climate and Crop Bulletin (series of 1899), reporting temperature and rainfall, with special reference to their effect on crops. (No. 1, for January.)

Snow and Ice charts for Monday, February 6, 13, 20, and 27.

(These charts are issued weekly on Tuesdays during the winter season, based upon data from regular Weather Bureau Stations, supplemented by reports from selected voluntary observers.)

Daily Weather Map showing weather conditions throughout the United States and giving forecasts of probable changes.



## PUBLICATIONS NOT AVAILABLE.

(The following publications were printed during January, but the editions were limited and no copies are now available for distribution by the Department.)

Legal Enactments for the Restriction of Plant Diseases. A compilation of the laws of the United States and Canada. By Erwin F. Smith, Division of Vegetable Physiology and Pathology. Pp. 45. (Bulletin No. 11, Division of Vegetable Physiology and Pathology.) Reprint. Price 5 cents.

A Destructive Borer Enemy of Birch Trees. By F. H. Chittenden. Pp. 44-51, figs. 15-17. (Reprint from Bulletin No. 18, new series, Division of Entomology.) Reprint.

Report of the Chief of Section of Foreign Markets for 1898. By Frank H. Hitchcock. Pp. iii, 163-166. (From Annual Reports Department of Agriculture, 1898.) Reprint.

Letter from the Secretary of Agriculture transmitting a detailed statement of the expenditures of all the appropriations in the Department of Agriculture for the fiscal year ending June 30, 1898, including supplemental accounts to date. Pp. 214. (House Doc. No. 23, 55th Cong., 3d sess.)

Operations of the Bureau of Animal Industry for the Fiscal Year Ended June 30, 1898. Pp. 78. (Senate Doc. No. 55, 55th Cong., 3d sess.)

JOS. A. ARNOLD,  
*Acting Chief.*

Approved:

JAMES WILSON,  
*Secretary.*



## NOTES REGARDING DEPARTMENT PUBLICATIONS.

The publications of the United States Department of Agriculture are of three classes: (1) Serial publications; (2) scientific and technical reports; and, (3) popular bulletins.

The first two classes are issued in limited editions and are not intended for general distribution, being particularly designed for scientific students and for libraries and institutions of learning. They are distributed free to persons cooperating with or rendering the Department some service. Sample copies will be sent if requested, but miscellaneous applicants should apply to the Superintendent of Documents, Union Building, Washington, D. C., to whom all publications not needed for official use, except circulars and bulletins printed by law for free distribution, are turned over in accordance with the following provision of the act providing for the public printing and binding and the distribution of public documents, viz:

SEC. 67. All documents at present remaining in charge of the several Executive Departments, bureaus, and offices of the Government not required for official use shall be delivered to the Superintendent of Documents, and hereafter all public documents accumulating in said Departments, bureaus, and offices not needed for official use shall be annually turned over to the Superintendent of Documents for distribution or sale.

The Farmers' Bulletins treat in a practical manner of subjects of particular interest to farmers, and are issued with a view to the widest possible circulation. These bulletins and circulars of information are free, two-thirds of them being set aside under the law for distribution through Senators, Representatives, and Delegates in Congress. Applications may be addressed to the Secretary of Agriculture, stating both the **number** and **title** of the publication desired.

The Department has no list to whom all publications are sent; the variety of the subjects treated naturally restricts the distribution of most of them to the sections of country to which they are especially suitable and to specialists. The Monthly List of Publications, issued the first of each month, will be mailed to all who apply for it. In it the titles of the publications are given with a note explanatory of the character of each, thus enabling the reader to make intelligent application for such bulletins and reports as are certain to be of interest to him.

The Department can not undertake to furnish complete sets of either Farmers' Bulletins or other publications.

For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.

For publications mentioned in the Monthly List preceding, **to which a price is attached** (with the exception of those issued by the Weather Bureau), application must be made to the

SUPERINTENDENT OF DOCUMENTS,  
UNION BUILDING,  
WASHINGTON, D. C.,

accompanied by the price thereof as fixed by him in accordance with the provisions of sections 61 and 67 of the act providing for the public printing and binding, and the distribution of public documents, approved January 12, 1895, and all remittances should be made to him and **not** to the Department of Agriculture; such remittances should be made by postal money order and not by private check or stamps.

The Superintendent of Documents is not permitted to sell more than one copy of any public document to the same person.

*The Superintendent of Documents is not an official of the Department of Agriculture.*

Applications for all other publications of this Department should be addressed to the Secretary of Agriculture, Washington, D. C.

Do not inclose stamps when writing to the Department about publications; it is not necessary in order to secure a reply.

Please advise the Department of any change of address.

The Department has no copies of the Horse Book or the Cattle Book.

The Superintendent of Documents has copies of the Yearbook for sale, as follows: Yearbook 1894, 50 cents; Yearbook 1895, 55 cents; Yearbook 1896, 50 cents; Yearbook 1897, 60 cents.



This circular will be sent regularly to all who apply for it.

# United States Department of Agriculture,

## DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., *March 31, 1899.*

### MONTHLY LIST OF PUBLICATIONS.

[**March, 1899.**]

(To obtain those publications to which a price is affixed, application should be made to the Superintendent of Documents, Union Building, Washington, D. C.)

History and Present Status of Instruction in Cooking in the Public Schools of New York City. Reported by Mrs. Louise E. Hogan, with an introduction by A. C. True, Ph. D. Pp. 70, pls. 12. (Bulletin No. 56, Office of Experiment Stations.) Price 10 cents.

An account of the progress and present development of the teaching of cooking in the public schools of New York City.

Water Rights on the Missouri River and Its Tributaries, by Elwood Mead, State Engineer of Wyoming. With papers on the Water Laws of Colorado, by John E. Field, State Engineer; and of Nebraska, by J. M. Wilson, State Engineer. Pp. 80, maps 3, figs. 4. (Bulletin No. 58, Office of Experiment Stations.) Price 10 cents.

A discussion of the irrigation laws which control the diversion and use of water from the Missouri River and its tributaries.

A Second Report to Congress on Agriculture in Alaska, including reports by C. C. Georgeson and Walter H. Evans. Prepared under the direction of A. C. True, of the Office of Experiment Stations. Pp. 51, pls. 11, figs. 2. (Bulletin No. 62, Office of Experiment Stations.) Congressional edition. Price 10 cents.

An account of the agricultural investigations made in Alaska in 1898. It records the first attempts made by the U. S. Department of Agriculture to conduct experimental inquiries in that Territory, as well as the continuance of an agricultural and botanical survey.

Usefulness of Reservoirs to Agriculture in the Irrigated Regions. Pp. 14. (Senate Doc. No. 124, 55th Cong., 3d sess.)

Letter of the Secretary of Agriculture, transmitting, in response to Senate resolution of February 8, 1899, a statement regarding the practical usefulness of reservoirs to agriculture in the irrigated region of the United States, especially as affecting the distribution of water to crops, the area and value of reclaimed lands, and the stability and profitableness of farming where irrigation is practiced.

Monthly List of Publications, February, 1899. (No. 321, Division of Publications.)

Experiment Station Record, Vol. X, No. 6. Pp. vi, 501-600. Price 10 cents.

Experiment Station Record, Vol. X, No. 7. Pp. vii, 601-700, fig. 1. Price 10 cents.

The Record contains numerous abstracts of the publications of the agricultural experiment stations and kindred institutions in this and other countries; articles and editorials on topics of special interest in agricultural science by American and foreign experts; and notes on the experiment stations.

NOTE.—For the convenience of those who desire to receive this publication regularly the Superintendent of Documents has decided to fix the price per volume (12 numbers) beginning with Vol. VIII, at \$1, payable in advance.



- Experiments in Range Improvement. By Jared G. Smith, Assistant Agrostologist. Pp. 5. (Circular No. 8, Division of Agrostology.) Reprint.
- Blackleg: Its Nature, Cause, and Prevention. By Victor A. Nörsgaard, Chief of Pathological Division, Bureau of Animal Industry. Pp. 15. (Circular No. 23, Bureau of Animal Industry.) Revised edition.
- Report of Committee on Legislation. Adopted by the State Good Roads Convention, held in Richmond, Va., October 10 and 11, 1895. Pp. 6. (Circular No. 18, Office of Road Inquiry.) Reprint.
- Contributions from the U. S. National Herbarium, Vol. III. Reports on collections, revisions of groups, and miscellaneous papers. Revisions of the North American Graminæ and Cactaceæ, studies of special groups, and catalogues of plants collected in Nebraska, Idaho, South Dakota, Kansas, Wyoming, Alaska, and Mexico, with geographic reports and description of new genera and species. Pp. 612, pls. 28. Price \$1.15. Reprint.
- Experiments with Sugar Beets in 1897. By Dr. H. W. Wiley, Chemist of the United States Department of Agriculture. Pp. 165, pls. 2, figs. 2. (Bulletin No. 52, Division of Chemistry.) Revised edition. Price 20 cents.
- A Descriptive Catalogue of Useful Fiber Plants of the World, including the Structural and Economic Classification of Fibers. By Chas. Richards Dodge, Special Agent. Pp. 361, pls. 12, figs. 103. (Report No. 9, Office of Fiber Investigations.) Reprint. Price 30 cents.
- The Timber Pines of the Southern United States. By Charles Mohr, Ph. D. Together with a Discussion of the Structure of Their Wood. By Filibert Roth. Prepared under the direction of B. E. Fernow, Chief of Division of Forestry. (Bulletin No. 13, Division of Forestry.) Revised edition. Reprint. Price 35 cents.

#### FARMERS' BULLETINS.

- Cowpeas. By Jared G. Smith, Assistant Agrostologist. Pp. 16, fig. 1. (Farmers' Bulletin No. 89.)
- Shows the necessity for a more extended cultivation of grasses and forage plants in the Southern States, describes the different varieties of cowpeas and methods of cultivation and harvesting, and calls attention to the high feeding value of cowpea hay.

#### REPRINTS.

- Leguminous Plants for Green Manuring and for Feeding. By E. W. Allen, Ph. D., Assistant Director of the Office of Experiment Stations. Pp. 24. (Farmers' Bulletin No. 16.) Reprint.
- Washed Soils: How to Prevent and Reclaim Them. Pp. 22, figs. 6. (Farmers' Bulletin No. 20.) Reprint.
- Barnyard Manure. By W. H. Beal, of the Office of Experiment Stations. Pp. 32, figs. 7. (Farmers' Bulletin No. 21.) Reprint.
- The Feeding of Farm Animals. By E. W. Allen, Ph. D., Assistant Director of the Office of Experiment Stations. Pp. 32. (Farmers' Bulletin No. 22.) Revised edition. Reprint.



- Hog Cholera and Swine Plague. By D. E. Salmon, D. V. M., Chief of the Bureau of Animal Industry. Pp. 16. (Farmers' Bulletin No. 24.) Reprint.
- Flax for Seed and Fiber in the United States. By Chas. Richards Dodge, Special Agent for Fiber Investigations. Pp. 16. (Farmers' Bulletin No. 27.) Reprint.
- Alfalfa or Lucern. By Jared G. Smith, Assistant Agrostologist. Pp. 24, figs. 3. (Farmers' Bulletin No. 31.) Reprint.
- Cotton Seed and Its Products. Prepared in the Office of Experiment Stations. Pp. 16. (Farmers' Bulletin No. 36.) Reprint.
- Commercial Fertilizers: Composition and Use. By Edward B. Voorhees, M. A., Director of the New Jersey Agricultural Experiment Stations and Professor of Agriculture in Rutgers College. Under the supervision of the Office of Experiment Stations. Pp. 24. (Farmers' Bulletin No. 44.) Reprint.
- Some Insects Injurious to Stored Grain. By F. H. Chittenden, Assistant Entomologist. Revised edition. Pp. 24, figs. 18. (Farmers' Bulletin No. 45.) Reprint.
- Irrigation in Humid Climates. By F. H. King, Professor of Agricultural Physics, College of Agriculture, University of Wisconsin, and Physicist of the Wisconsin Agricultural Experiment Station. Under the supervision of the Office of Experiment Stations. Pp. 27, figs. 4. (Farmers' Bulletin No. 46.) Reprint.
- Sorghum as a Forage Crop. By Thomas A. Williams, Assistant Agrostologist. Prepared under direction of the Agrostologist. Pp. 20, fig. 1. (Farmers' Bulletin No. 50.) Revised edition.
- Standard Varieties of Chickens. By George E. Howard, Secretary of National Poultry and Pigeon Association, under the supervision of Dr. D. E. Salmon, Chief of Bureau of Animal Industry. Revised edition. Pp. 48, figs. 42. (Farmers' Bulletin No. 51.)
- The Sugar Beet: Culture, Seed, Development, Manufacture, and Statistics. By H. W. Wiley, Chief of Division of Chemistry, and formerly Director of the Department Sugar Beet Experiment Station in Nebraska. Pp. 48, figs. 24. (Farmers' Bulletin No. 52.) Revised edition.
- How to Grow Mushrooms. By William Falconer. Under the supervision of the Division of Vegetable Physiology and Pathology. Pp. 20, figs. 14. (Farmers' Bulletin No. 53.) Reprint.
- The Soy Bean as a Forage Crop. By Thomas A. Williams, Assistant Agrostologist. Prepared under the direction of the Agrostologist. With an appendix on Soy Beans as Food for Man. By B. F. Langworthy, Ph. D., Office of Experiment Stations. Pp. 24, figs. 5. (Farmers' Bulletin No. 58.) Revised edition.
- Ducks and Geese: Standard Breeds and Management. By George E. Howard, Secretary of National Poultry and Pigeon Association. Pp. 48, figs. 37. (Farmers' Bulletin No. 64.) Reprint.
- The Black Rot of the Cabbage. By Erwin F. Smith, Division of Vegetable Physiology and Pathology. Pp. 22. (Farmers' Bulletin No. 68.) Reprint.



The Principal Insect Enemies of the Grape. By C. L. Marlatt, M. S., First Assistant Entomologist. From Yearbook for 1895. Pp. 23, figs. 12. (Farmers' Bulletin No. 70.) Reprint.

Cattle Ranges of the Southwest: A History of the Exhaustion of the Pasturage and Suggestions for its Restoration. By H. L. Bentley, Special Agent in Charge of Grass Station at Abilene, Tex. Pp. 32, figs. 9. (Farmers' Bulletin No. 72.) Reprint.

Experiment Station Work—IV. Prepared in the Office of Experiment Stations. Pp. 32, figs. 3. (Farmers' Bulletin No. 73.) Reprint.

The Liming of Soils. By H. J. Wheeler, Ph. D., Chemist of the Rhode Island Agricultural Experiment Station. Pp. 19. (Farmers' Bulletin No. 77.) Revised edition.

The Peach Twig-Borer: An Important Enemy of Stone Fruits. By C. L. Marlatt, M. S., First Assistant Entomologist. Pp. 16, figs. 5. (Farmers' Bulletin No. 80.) Reprint.

Tobacco Soils. By Milton Whitney, Chief of Division of Soils. Pp. 23, fig. 1. (Farmers' Bulletin No. 83.) Reprint.

Experiment Station Work—VII. Prepared in the Office of Experiment Stations. Pp. 32, figs. 8. (Farmers' Bulletin No. 84.) Reprint.

#### PUBLICATIONS OF THE WEATHER BUREAU.

(For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.)

Monthly Weather Review. December, 1898. Vol. XXVI, No. 12. Pp. 527-591, charts 12. Price 10 cents.

Monthly Weather Review. Annual Summary for 1898. Vol. XXVI, No. 13. Pp. x, 593-605, charts 5. Price 10 cents.

#### Charts of the Weather Bureau—

Climate and Crop Bulletin (series of 1899), reporting temperature and rainfall, with special reference to their effect on crops. (No. 2, for the month of February, 1899.)

Snow and Ice charts for Monday, March 6, 13, 20, 27.

(These charts are issued weekly on Tuesdays during the winter season, based upon data from regular Weather Bureau Stations, supplemented by reports from selected voluntary observers.)

Daily Weather Map showing weather conditions throughout the United States and giving forecasts of probable changes.

GEO. WM. HILL,  
*Chief.*

Approved:  
JAMES WILSON,  
*Secretary.*



This circular will be sent regularly to all who apply for it.  
**United States Department of Agriculture,**  
**DIVISION OF PUBLICATIONS.**

WASHINGTON, D. C., *April 29, 1899.*

**MONTHLY LIST OF PUBLICATIONS.**

[April, 1899.]

(To obtain those publications to which a price is affixed, application should be made to the Superintendent of Documents, Union Building, Washington, D. C.)

*Poa Fendleriana* and Its Allies. By Thomas A. Williams, Assistant Agrostologist. Pp. 6. (Circular No. 10, Division of Agrostology.)

Descriptions of the different species of these grasses.

Officials, Associations, and Educational Institutions Connected with the Dairy Interests of the United States for the Year 1899. By Henry E. Alvord, Chief of Dairy Division. Pp. 8. (Circular No. 26, Bureau of Animal Industry.)

The Squash-Vine Borer. (*Melittia satyriniformis* Hbn.) By F. H. Clittenden, Assistant Entomologist. Pp. 6, figs. 2. (Circular No. 38, second series, Division of Entomology.)

General appearance, methods of work, distribution, food habits, and natural history of the squash-vine borer, and preventive and remedial measures.

Highway Maintenance and Repairs. Highway Taxation; Comparative Results of Labor and Money Systems; Contract System of Maintaining Roads. By Roy Stone, Director, Office of Road Inquiry. Pp. 16. (Circular No. 24, Office of Road Inquiry.) Reprint.

New Spraying Devices. By B. T. Galloway, Chief of Division. Pp. 4, figs. 3. (Circular No. 17, Division of Vegetable Physiology and Pathology.)

Descriptions of a combined hand spray and syringe, and a greenhouse nozzle for the application of water.

Monthly List of Publications, March 1899. (No. 326, Division of Publications.)

Grazing Problems in the Southwest and How to Meet Them. By Jared G. Smith, Assistant Agrostologist. Prepared under the direction of the Agrostologist. Pp. 47, figs. 9. (Bulletin No. 16, Division of Agrostology.) Price 5 cents.

Results of investigations of the forage conditions of the grazing lands in the Southwest, and a report on the native grasses and forage plants, their abundance, value and preservation, and suggestions as to the methods to be employed in restoring the former carrying capacity of the ranges.



North American Fauna No. 14. Natural history of the Tres Marias Islands, Mexico. Prepared under the direction of Dr. C. Hart Merriam, Chief of the Division of Biological Survey. Pp. 97, pl. 1, figs. 2. Price 10 cents.

General Account of the Island, with Reports on Mammals and Birds. By E. W. Nelson.

Reptiles of the Tres Marias. By Leonhard Stejneger.

Notes on Crustacea of the Tres Marias. By Mary J. Rathbun.

Plants of the Tres Marias. By J. N. Rose.

Bibliography of the Tres Marias. By E. W. Nelson.

Some Insects Injurious to Garden and Orchard Crops. A Series of Articles Dealing with Insects of this Class. Prepared under the direction of the Entomologist, by F. H. Chittenden, Assistant Entomologist. Pp. 99, figs. 20. (Bulletin No. 19, new series, Division of Entomology.) Price 10 cents.

A series of articles giving descriptions of various insects injurious to garden and orchard crops, their life history, natural enemies, distribution, food plants, food habits, and methods of control.

Methods and Results of Investigations on the Chemistry and Economy of Food. By W. O. Atwater, Ph. D., Professor of Chemistry in Wesleyan University, Director of the Storrs (Conn.) Agricultural Experiment Station, and Special Agent of the United States Department of Agriculture. Pp. 222. (Bulletin No. 21, Office of Experiment Stations.) Reprint. Price 15 cents.

Varieties of Corn. By E. L. Sturtevant, M. D. Pp. 108, figs. 14. (Bulletin No. 57, Office of Experiment Stations.) Price 10 cents.

Nearly 800 varieties and synonyms of corn are treated and an attempt is made to place the nomenclature upon a sound scientific basis. A system of classification has been adopted in which the closely related forms are brought together and the very considerable duplication of varieties shown.

Water Rights on the Missouri River and Its Tributaries. By Elwood Mead, State Engineer of Wyoming. With papers on the water laws of Colorado, by John E. Field, State Engineer; and of Nebraska, by J. M. Wilson, State Engineer. Pp. 80, maps 3, figs. 4. (Bulletin No. 58, Office of Experiment Stations.) Reprint. Price 10 cents.

Abstract of Laws for Acquiring Titles to Water from the Mississippi River and Its Tributaries, with the Legal Forms in Use. Compiled by Elwood Mead, State Engineer of Wyoming. Pp. 77. (Bulletin No. 60, Office of Experiment Stations.) Price 10 cents.

Statistics of the Land-Grant Colleges and Agricultural Experiment Stations in the United States for the Year Ending June 30, 1898. Pp. 39. (Bulletin No. 64, Office of Experiment Stations.) Price 5 cents.

Trade of Puerto Rico. By Frank H. Hitchcock, Chief, Section of Foreign Markets. Pp. 84. (Bulletin No. 13, Section of Foreign Markets.) Reprint. Price 5 cents.

Experiment Station Record, Vol. X, No. 8. Pp. vi, 701-800. Price 10 cents.

The Record contains numerous abstracts of the publications of the agricultural experiment stations and kindred institutions in this and other countries; articles and editorials on topics of special interest in agricultural science by American and foreign experts; and notes on the experiment stations.

NOTE.—For the convenience of those who desire to receive this publication regularly the Superintendent of Documents has decided to fix the price per volume (12 numbers) beginning with Vol. VIII, at \$1, payable in advance.



## FARMERS' BULLETINS.

Fowls: Care and Feeding. By G. C. Watson, B. Agr., M. S., Professor of Agriculture in Pennsylvania State College, and Agriculturist of the Pennsylvania Agricultural Experiment Station. Pp. 24, figs. 4. (Farmers' Bulletin No. 41.) Reprint.

Butter Making on the Farm. By C. P. Goodrich, Dairy Instructor, Farmers' Institute Department, University of Wisconsin. Under supervision of the Dairy Division, Bureau of Animal Industry. Pp. 16. (Farmers' Bulletin No. 57.) Reprint.

Experiment Station Work.—IX. Prepared in the Office of Experiment Stations. Pp. 30. (Farmers' Bulletin No. 92.)

CONTENTS.—Sugar-beets on alkali soils—Planting and replanting corn—Improvement of sorghum—Improved culture of potatoes—Second crop potatoes for seed—Cold v. warm water for plants—Forcing head lettuce—The date-palm in the United States—The codling moth—Jerusalem artichokes for pigs—Feeding calves—Pasteurization in butter making—Gassy and tainted curds—Pure cultures in cheese making.

## PUBLICATIONS OF THE WEATHER BUREAU.

(For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.)

Proceedings of the Convention of Weather Bureau Officials, Held at Omaha, Nebr. October 13-14, 1898. Prepared under direction of Willis L. Moore, Chief, U. S. Weather Bureau. Edited by James Berry, Chief of Climate and Crop Division, Secretary of the Convention. Pp. 184, pl. 1. (Bulletin No. 24, Weather Bureau.)

Measurement of Precipitation. Prepared under the direction of Willis L. Moore, Chief, U. S. Weather Bureau. By C. F. Marvin, Professor of Meteorology. Pp. 28, figs. 10. (Circular F, Instrument Division, Weather Bureau.)

A pamphlet of instruction for the measurement and registration of precipitation by means of the standard instruments of the U. S. Weather Bureau.

Climate and Crop Report of 1898, Alaska Section. Prepared under direction of Willis L. Moore, Chief of Weather Bureau. By H. L. Ball, Section Director, Sitka, Alaska. Pp. 7.

Hydrology of the Lake Minnetonka Watershed. By George W. Cooley, C. E., Minneapolis, Minn. Published by direction of Willis L. Moore, Chief, U. S. Weather Bureau. Pp. 10, figs. 4.

Report of the Chief of Weather Bureau, 1897-98. By Willis L. Moore. Part II. Pp. 87.

Hourly averages of atmospheric pressure, temperature and wind from the records of automatic instruments at twenty-eight stations.

*Same*, Part III. Pp. 89-165.

Monthly and annual meteorological summaries.

*Same*, Part IV. Pp. 167-202.

Monthly and annual mean temperature and annual extremes of temperature, together with the dates of first and last killing frost, 1897.

*Same*, Part V. Pp. 203-257.

Monthly and annual precipitation, 1897. All stations.



*Same*, Part VI. Pp. 259-304, charts 21.

Hourly averages of atmospheric pressure, temperature and wind from the records of automatic instruments at twenty-eight stations.

*Same*, Part VII. Pp. 305-338, pls. 7, diags. 9.

Climate of Cuba. By W. F. R. Phillips. Meteorological Waves and the Distribution of Moisture in the United States. By H. A. Hazen, Professor, Weather Bureau.

Monthly Weather Review. January, 1899. Vol. XXVII, No. 1.  
Pp. 40, charts 9. Price 10 cents.

Monthly Weather Review. February, 1899. Vol. XXVII, No. 2.  
Pp. 41-87, pls. 6, charts 13. Price 10 cents.

#### Charts of the Weather Bureau—

Climate and Crop Bulletin (series of 1899), reporting temperature and rainfall, with special reference to their effect on crops. (No. 3, for the month of March, 1899, and Nos. 4, 5, and 6 for the month of April.)

Daily Weather Map showing weather conditions throughout the United States and giving forecasts of probable changes.

GEO. WM. HILL,  
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Approved:

JAMES WILSON,  
*Secretary of Agriculture.*



This circular will be sent regularly to all who apply for it.

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# United States Department of Agriculture,

## DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., *May 31, 1899.*

### MONTHLY LIST OF PUBLICATIONS.

[*May, 1899.*]

(To obtain those publications to which a price is affixed, application should be made to the Superintendent of Documents, Union Building, Washington, D. C. See accompanying notes (page 7) regarding Department publications.)

Yearbook of the U. S. Department of Agriculture, 1898. Pp. 768, frontispiece, pls. 41, figs. 136.

The first part consists of the Annual Report of the Secretary of Agriculture for the fiscal year 1898 and covers the operations of the Department for that year.

The second part embraces 36 miscellaneous papers on agriculture and kindred subjects, prepared with few exceptions by the chiefs of Bureaus, Divisions, and Offices of the Department.

The third part is the Appendix. Special attention is given to this part of the Yearbook, with the view of increasing its scope and usefulness, and an effort has been made to give it the character of an agricultural directory. The Appendix, besides the usual statistics relating to crops, etc., contains brief articles showing the amount of foreign trade of Cuba and the Philippines, a review of weather and crop conditions, season of 1898, methods of control of injurious insects, preparation and use of insecticides, and other useful information.

The small quota (only 6 per cent) of this publication assigned to this Department is insufficient to supply even its regular correspondents and coworkers, and miscellaneous applicants are therefore respectfully referred to their Senators, Representatives, and Delegates in Congress, to whom the other 94 per cent is allotted for distribution. The Superintendent of Documents has them for sale at 60 cents per copy.

Proceedings of the Twelfth Annual Convention of the Association of American Agricultural Colleges and Experiment Stations, held at Washington, D. C., November 15-17, 1898. Edited by A. C. True and W. H. Beal for the Office of Experiment Stations, and W. H. Goodell for the Executive Committee of the Association. Pp. 138. (Bulletin No. 65, Office of Experiment Stations.) Price 10 cents.

Our Foreign Trade in Agricultural Products, 1894-1898. By Frank H. Hitchcock, Chief, Section of Foreign Markets. Pp. 45. (Bulletin No. 15, Section of Foreign Markets.) Price 5 cents.

A statistical review of the exports and imports of agricultural products, showing the increases and decreases.

*Same.* Two reprints.

Accessions to the Department Library. January-March, 1899. Pp. 20. (Library Bulletin No. 27.) Price 5 cents.



Report on the Condition of Winter Grain on April 1, 1899, and the Losses of Farm Animals During the Year Ending March 31, 1899, With Statistics of Foreign Crops. By John Hyde, Statistician. Pp. 38. (New series, Report No. 156, Division of Statistics.)

Curing and Fermentation of Cigar Leaf Tobacco. By Oscar Loew, of the Division of Vegetable Physiology and Pathology. Pp. 34. (Department Report No. 59.) Price 5 cents.

Results of bacteriological, chemical, and chemico-physiological studies of cigar leaf tobacco during the three stages: Curing, sweating or fermentation, and cold sweat or aging.

The Flat Pea. By F. Lamson-Scribner, Agrostologist. Pp. 6, figs. 3. (Circular No. 11, Division of Agrostology.)

Description, history of introduction, uses, and cultivation of the flat pea.

Rape as a Forage Plant. By Thomas A. Williams, Assistant Agrostologist. Pp. 6, fig. 1. (Circular No. 12, Division of Agrostology.)

A discussion of the varieties, culture, value, and uses of the plant.

*Same.* Reprint.

The Common Squash Bug. (*Anasa tristis* De G.) By F. H. Chittenden, Assistant Entomologist. Pp. 5, figs. 3. (Circular No. 39, second series, Division of Entomology.)

Describes the general appearance, method of work, distribution, life history, habits, natural enemies, and methods of control of this best known of all insects which infest squashes and pumpkins.

Agricultural Imports and Exports, 1894-1898. By Frank H. Hitchcock, Chief, Section of Foreign Markets. Pp. 16. (Circular No. 21, Section of Foreign Markets.)

A detailed statement of agricultural imports and exports and their values.

*Same.* Reprint.

Monthly List of Publications, April, 1899. (No. 329, Division of Publications.)

Crop Circular for May, 1899. By John Hyde, Statistician. Pp. 4. (Circular, Division of Statistics.)

Report of acreage or condition of winter wheat, rye, cotton, meadows and spring pastures, and proportion of spring plowing done May 1; also a report on condition of foreign crops.

Experiment Station Record, Vol. X, No. 9. Pp. vi, 801-900. Price 10 cents.

Experiment Station Record, Vol. X, No. 10. Pp. vi, 901-1000. Price 10 cents.

The Record contains numerous abstracts of the publications of the agricultural experiment stations and kindred institutions in this and other countries; articles and editorials on topics of special interest in agricultural science by American and foreign experts; and notes on the experiment stations.

NOTE.—For the convenience of those who desire to receive this publication regularly the Superintendent of Documents has decided to fix the price per volume (12 numbers) beginning with Vol. VIII, at \$1, payable in advance.

Investigations on the Metabolism of Milch Cows. By Oscar Hagerman, Ph. D., Professor at the Agricultural Academy, Poppelsdorf, Germany. Pp. ii, 803-916. (Reprinted from Experiment Station Record, Vol. X, Nos. 9 and 10.)



## FARMERS' BULLETINS.

The Manufacture of Sorghum Sirup. By A. A. Denton, Medicine Lodge, Kans. Pp. 32, figs. 2. (Farmers' Bulletin No. 90.)

Discusses the entire subject of the manufacture of sorghum sirup, from the planting of the sorghum seed and cultivation of the plant through the various processes to the finished product. Statistics of sorghum-sirup production are given, and the necessity of improving the methods of clarification are pointed out.

Potato Diseases and Their Treatment. By B. T. Galloway, Chief of the Division of Vegetable Physiology and Pathology. Pp. 12, figs. 4. (Farmers' Bulletin No. 91.)

Brief descriptions of the most important potato diseases and methods of treatment.

Sugar as Food. By Mary Hinman Abel. Prepared under the supervision of the Office of Experiment Stations. Pp. 27. (Farmers' Bulletin No. 93.)

Treats of the chemical composition of sugar, its food value, use in dietaries of adults and children, and the sources of cane sugar.

The Vegetable Garden. By Charles H. Greathouse, A. M., Division of Publications. Pp. 24, figs. 8. (Farmers' Bulletin No. 94.)

Shows the value of the farm garden both as to revenue and as a means of supplying the home table, and gives suggestions regarding the cultivation and care of the most common vegetables.

## REPRINTS.

Forage Plants for the South. By S. M. Tracy, M. S., Director of the Mississippi Experiment Station. Pp. 30, figs. 17. (Farmers' Bulletin No. 18.)

Potato Culture. By J. F. Duggar, of the Office of Experiment Stations. Pp. 24, figs. 2. (Farmers' Bulletin No. 35.)

Experiment Station Work—I. Prepared in the Office of Experiment Stations. Pp. 31, figs. 10. (Farmers' Bulletin No. 56.)

Meadows and Pastures: Formation and Cultivation in the Middle Eastern States. (Revised edition.) By Jared G. Smith, Assistant Agrostologist. Pp. 28, figs. 9. (Farmers' Bulletin No. 66.)

Experiment Station Work—IV. Prepared in the Office of Experiment Stations. Pp. 32, figs. 3. (Farmers' Bulletin No. 73.)

Experiment Station Work—V. Prepared in the Office of Experiment Stations. Pp. 32, figs. 2. (Farmers' Bulletin No. 78.)

Experiment Station Work—VI. Prepared in the Office of Experiment Stations. Pp. 28, figs. 2. (Farmers' Bulletin No. 79.)

REPRINTS FROM YEARBOOK OF DEPARTMENT OF AGRICULTURE  
FOR 1898.

Some Types of American Agricultural Colleges. By A. C. True, Director of the Office of Experiment Stations. Pp. ii, 63-80, pls. 7.

The Danger of Introducing Noxious Animals and Birds. By T. S. Palmer, Assistant Chief of Biological Survey. Pp. ii, 87-110. pl. 1, figs. 6.



- The Preparation and Use of Tuberculin. By E. A. de Schweinitz, Ph. D., M. D., Chief of Biochemic Division, Bureau of Animal Industry. Pp. ii, 111-120, pl. 1.
- The Principal Insects Affecting the Tobacco Plant. By L. O. Howard, Ph. D., Entomologist. Pp. ii, 121-150, figs. 25.
- Pruning of Trees and Other Plants. By William Saunders, Horticulturist. Pp. ii, 151-166.
- Pollination of Pomaceous Fruits. By M. B. Waite, Assistant Pathologist, Division of Vegetable Physiology and Pathology. Pp. ii, 167-180, figs. 13.
- Notes on Some Forest Problems. By Gifford Pinchot, Forester. Pp. ii, 181-192, pls. 5.
- Weeds in Cities and Towns. By Lyster H. Dewey, Assistant Botanist. Pp. ii, 193-200, figs. 5.
- The Use of Kites in the Exploration of the Upper Air. By C. F. Marvin, Professor of Meteorology, Weather Bureau. Pp. ii, 201-212, pl. 1, figs. 9.
- Utilization of Residues from Beet-sugar Manufacture in Cattle Feeding. By Guilford L. Spencer, Assistant in Division of Chemistry. Pp. ii, 213-220.
- Birds as Weed Destroyers. By Sylvester D. Judd, Ph. D., Assistant in Biological Survey. Pp. ii, 221-232, figs. 7.
- Insects Injurious to Beans and Peas. By F. H. Chittenden, Assistant Entomologist. Pp. ii, 233-260, figs. 17.
- Milletts. By Thomas A. Williams, Assistant in Division of Agrostology. Pp. ii, 267-290, pls. 2, figs. 5.
- Steel-Track Wagon Roads. By Martin Dodge, Director of the Office of Road Inquiry. Pp. ii, 291-296, pls. 3, fig. 1.
- Work of Division of Forestry for the Farmer. By Gifford Pinchot, Forester. Pp. ii, 297-308, pls. 3, figs. 2.
- Utilizing Surplus Fruits. By G. B. Brackett, Pomologist. Pp. ii, 309-316.
- Construction of Good Country Roads. By Maurice O. Eldridge, Assistant in Office of Road Inquiry. Pp. ii, 317-324, pls. 2.
- Public Domain of the United States. By Max West, Ph. D., of the Division of Statistics. Pp. ii, 325-354.
- Improvement of Plants by Selection. By Herbert J. Webber, Special Agent of Division of Vegetable Physiology and Pathology. Pp. ii, 355-376, pls. 2, figs. 3.
- Can Perfumery Farming Succeed in the United States? By Edward S. Steele, Assistant in Division of Botany. Pp. ii, 377-398, figs. 7.
- The Movement and Retention of Water in Soils. By Lyman J. Briggs, Assistant Chief of Division of Soils. Pp. ii, 399-404, figs. 8.



- Sand-Binding Grasses. By F. Lamson-Scribner, Agrostologist. Pp. ii, 405-420. pls. 3, figs. 11.
- Keeping Goats for Profit. By Almont Barnes, of the Division of Statistics. Pp. ii, 421-438, pls. 2.
- Some Results of Dietary Studies in the United States. By A. P. Bryant, of the Office of Experiment Stations. Pp. ii, 439-452.
- Cattle Dipping: Experimental and Practical. By Victor A. Nör-gaard, V. S. (Copenhagen), Chief of Pathological Division, Bureau of Animal Industry. Pp. ii, 453-472, figs. 2.
- Grass Seed and its Impurities. By the late Gilbert Hicks, former First Assistant Botanist. Pp. ii, 473-494, pls. 5, figs. 2.
- The Soluble Mineral Matter of Soils. By Thomas H. Means, Assistant, Division of Soils. Pp. ii, 495-504.
- Agriculture in Puerto Rico. By Roy Stone, Brigadier-General, U. S. Volunteers. Pp. ii, 505-514, pl. 1.
- Cyclones, Hurricanes, and Tornadoes. By F. H. Bigelow, Professor of Meteorology, Weather Bureau. Pp. ii, 525-534.
- Forage Plants for Cultivation on Alkali Soils. By Jared G. Smith, Assistant Agrostologist. Pp. ii, 535-550, figs. 4.
- The Present Condition of Grape Culture in California. By George Husman, of Napa, California. Pp. ii, 551-562.
- The Hawaiian Islands. By Walter Maxwell, Director and Chief Chemist of Hawaiian Sugar Planters' Association. Pp. ii, 563-582.
- Agricultural Statistics Relating to Grain, Cotton, Sugar, Animals, etc., in the United States. Pp. iii, 678-723.

#### PUBLICATIONS OF THE WEATHER BUREAU.

(For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.)

Report of the Chief of the Weather Bureau, 1897-8. In 7 parts. Part I—Administrative report. Parts II, III, IV, V, and VI—Climatology of the year. Part VII—Climate of Cuba and miscellaneous papers. Cloth. Pp. 338, pls. 7, charts 21, diagrams 9. (Congressional publication.)

Monthly Weather Review. March, 1899. Vol. XXVII, No. 3. Pp. 89-138, charts 13. Price 10 cents.

Charts of the Weather Bureau—

Climate and Crop Bulletin (series of 1899), reporting temperature and rainfall, with special reference to their effect on crops. (Nos. 7, 8, 9, 10, and 11 for the month of May, 1899.)

Meteorological charts of the Great Lakes.

(List of Wind Signal Stations on the Lakes, both American and Canadian, with table of maximum of observed wind velocities on the Lakes in April, May, and June, and advices as to May storms and storm tracks; also a supplement containing notes relating to ice on Lake Superior.)

Daily Weather Map showing weather conditions throughout the United States and giving forecasts of probable changes.

## PUBLICATIONS NOT AVAILABLE.

(The following publications were printed during May, but the editions were limited and no copies are available for distribution by the Department.)

The Crop Reporter. Vol. 1, No. 1. Published by the U. S. Department of Agriculture, under the supervision of the Statistician. Pp. 4.

A three column quarto newspaper devoted to agricultural topics. It is for the benefit and information of crop correspondents exclusively and is mailed to them only.

Plants of the Tres Marias Islands. By J. N. Rose, Assistant Curator, Division of Plants, U. S. National Museum. Pp. 77-91, figs. 2. (From North American Fauna No. 14.)

Notes on the Crustacea of the Tres Marias Islands. By Mary J. Rathbun, Second Assistant Curator, Division of Marine Invertebrates, U. S. National Museum. Pp. 73-75. (From North American Fauna No. 14.)

Reptiles of the Tres Marias and Isabel Islands. By Leonhard Stejneger, Curator, Division of Reptiles and Batrachians, U. S. National Museum. Pp. 63-71. (From North American Fauna No. 14.)

Work in Vegetable Physiology. By Albert F. Woods, Acting Chief of Division of Vegetable Physiology and Pathology. Pp. ii, 261-266, (Reprint from Yearbook of Department of Agriculture for 1898.)

Agricultural Experiments in Alaska. By C. C. Georgeson, M. S., Special Agent, Office of Experiment Stations, in charge of Alaska Investigations. Pp. ii, 515-524, pls. 3. (Reprint from Yearbook of Department of Agriculture for 1898.)

Notes on Some English Farms and Farmers. By Geo. Wm. Hill, Chief of the Division of Publications. Pp. ii, 583-589. (Reprint from Yearbook of Department of Agriculture for 1898.)

GEO. WM. HILL,  
*Chief.*

Approved:  
JAMES WILSON,  
*Secretary.*



## NOTES REGARDING DEPARTMENT PUBLICATIONS.

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SEC. 67. All documents at present remaining in charge of the several Executive Departments, bureaus, and offices of the Government not required for official use shall be delivered to the Superintendent of Documents, and hereafter all public documents accumulating in said Departments, bureaus, and offices not needed for official use shall be annually turned over to the Superintendent of Documents for distribution or sale.

The Farmers' Bulletins treat in a practical manner of subjects of particular interest to farmers, and are issued with a view to the widest possible circulation. These bulletins and circulars of information are free, two-thirds of them being set aside under the law for distribution through Senators, Representatives, and Delegates in Congress. Applications may be addressed to the Secretary of Agriculture, stating both the **number** and **title** of the publication desired.

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This circular will be sent regularly to all who apply for it.

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# United States Department of Agriculture,

## DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., *June 30, 1899.*

### MONTHLY LIST OF PUBLICATIONS.

[June, 1899.]

(To obtain those publications to which a price is affixed, application should be made to the Superintendent of Documents, Union Building, Washington, D. C. See accompanying notes (page 8) regarding Department publications.)

American Grasses—II. (Illustrated.) By F. Lamson-Scribner, Agrostologist. Pp. 349, figs. 325. (Bulletin No. 17, Division of Agrostology.) Price 20 cents.

Descriptions of 325 species of American grasses.

Studies on American Grasses. A Synopsis of the Genus *Sitanion*. By Jared G. Smith. Prepared under the direction of F. Lamson-Scribner, Agrostologist. Pp. 21, pls. 4. (Bulletin No. 18, Division of Agrostology.) Price 5 cents.

Characters of the genus and description of the many species of *Sitanion*.

The Structure of the Caryopsis of Grasses with Reference to Their Morphology and Classification. By P. Beveridge Kennedy, Ph. D. Prepared under the direction of F. Lamson-Scribner, Agrostologist. Pp. 44, pls. 8. (Bulletin No. 19, Division of Agrostology.) Price 10 cents.

Methods of Analysis Adopted by the Association of Official Agricultural Chemists, November 11, 12, and 14, 1898. Edited by Harvey W. Wiley, Secretary. Pp. 86, figs. 4. (Bulletin No. 46, Division of Chemistry.) Revised edition. Price 10 cents.

Proceedings of the Fifteenth Annual Convention of the Association of Official Agricultural Chemists, held at Washington, D. C., November 11, 12, and 14, 1898. Edited by Harvey W. Wiley, Secretary of the Association. Pp. 140. (Bulletin No. 56, Division of Chemistry.) Price 10 cents.

The Chemical Composition of American Food Materials. By W. O. Atwater, Ph. D., and A. P. Bryant, M. S. Pp. 87, figs. 4. (Bulletin No. 28, Office of Experiment Stations.) Revised edition. Price 5 cents.

The Physiological Effect of Creatin and Creatinin and Their Value as Nutrients. By J. W. Mallet, M. D., L. L. D., Professor of Chemistry in the University of Virginia. Pp. 24. (Bulletin No. 66, Office of Experiment Stations.) Price 5 cents.

A report on investigations of the physiological effect and nutritive value of these nitrogenous extractives or so-called flesh bases.

Electrical Instruments for Determining the Moisture, Temperature, and Soluble Salt Content of Soils. By Lyman J. Briggs, Assistant Chief, Division of Soils. Pp. 35, figs. 12. (Bulletin No. 15, Division of Soils.) Price 5 cents.

Description of methods of determination and instruments for determining the moisture, temperature, and soluble salt content of soils.

Temperature Changes in Fermenting Piles of Cigar Leaf Tobacco. By Milton Whitney and Thos. H. Means, of the Division of Soils, in Cooperation with the Division of Vegetable Physiology and Pathology. Pp. 28, figs. 7. (Report No. 60.)

Results of investigations of temperature changes in Florida and Connecticut tobacco.

Progress of the Beet Sugar Industry in the United States in 1898. Pp. 162. Part I, by Charles F. Saylor, Special Agent. Part II, by H. W. Wiley, Chemist of the U. S. Department of Agriculture. (Printed by resolution of Congress.)

The edition is 50,000 copies, of which 30,000 are for the use of Senators, Representatives, and Delegates in Congress, and 20,000 for distribution by the Department of Agriculture.

Florida Beggar Weed (*Desmodium tortuosum*). By Jared G. Smith, Assistant Agrostologist. Pp. 5, figs. 2. (Circular No. 13, Division of Agrostology.)

Description of the weed, its value as a fertilizer, as a hay, and as a food.

The Velvet Bean (*Mucuna utilis*). By Jared G. Smith, Assistant Agrostologist. Pp. 5, figs. 3. (Circular No. 14, Division of Agrostology.)

Discusses the origin, value, and uses of the bean.

Notes on the Plant Products of the Philippine Islands. By Frank H. Hitchcock, Chief, Section of Foreign Markets. Pp. 8. (Circular No. 17, Division of Botany.)

List of Bulletins and Circulars issued by the U. S. Department of Agriculture and available for Free Distribution. Corrected to June 1, 1899. Pp. 20. (No. 247, Division of Publications.) Third edition.

Monthly List of Publications, May, 1899. (No. 331, Division of Publications.)

Road Improvement in Governors' Messages. By Roy Stone, Director of Road Inquiry. Pp. 14. (Circular No. 33, Office of Road Inquiry.)

Extracts from the messages of the governors of 17 States to the several legislatures, favoring road improvement.

Crop Circular for June, 1899. By John Hyde, Statistician. Pp. 4.

Report of acreage and condition of spring and winter wheat, oats, barley, rye, clover, cotton, and rice, and condition of apples, peaches, and spring pasture; also a report on foreign crops.



Experiment Station Record, Vol. X, No. 11. Pp. vi, 1001-1100.  
Price 10 cents.

The Record contains numerous abstracts of the publications of the agricultural experiment stations and kindred institutions in this and other countries; articles and editorials on topics of special interest in agricultural science by American and foreign experts and notes on the experimental stations.

NOTE.—For the convenience of those who desire to receive this publication regularly the Superintendent of Documents has decided to fix the price per volume (12 numbers) beginning with Vol. VIII, at \$1, payable in advance.

#### REPRINTS.

- The Principal Household Insects of the United States. By L. O. Howard and C. L. Marlatt. With a chapter on Insects Affecting Dry Vegetable Foods. By F. H. Chittenden. Pp. 131, figs. 64. (Bulletin No. 4, new series, Division of Entomology.) Revised edition. Reprint. Price 10 cents.
- A Compilation of Analyses of American Feeding Stuff. By F. H. Jenkins, Ph. D., and A. L. Winton, Ph. B. Pp. 155. (Bulletin No. 11, Office of Experiment Stations.) Reprint. Price 10 cents.
- Losses in Boiling Vegetables and the Composition and Digestibility of Potatoes and Eggs. By H. Snyder, B. S., Almah J. Frisby, M. D., and A. B. Bryant, M. S. Pp. 31, figs. 7. (Bulletin No. 43, Office of Experiment Stations.) Reprint. Price 5 cents.
- Nutrition Investigations at the University of Tennessee in 1896 and 1897. By Chas. E. Wait, Ph. D., F. C. S., Professor of Chemistry in the University of Tennessee. Pp. 46. (Bulletin No. 53, Office of Experiment Stations.) Reprint. Price 5 cents.
- Abstract of Laws for Acquiring Titles to Water from the Missouri River and Its Tributaries, with the Legal Forms in Use. Compiled by Elwood Mead, State Engineer of Wyoming. Pp. 77. (Bulletin No. 60, Office of Experiment Stations.) Reprint. Price 10 cents.
- North American Fauna No. 10. Revision of the Shrews of the American Genera *Blarina* and *Notiosorex*. By C. Hart Merriam.—The Long-tailed Shrews of the Eastern United States. By Gerritt S. Miller, jr.—Synopsis of the American Shrews of the Genus *Sorex*. By C. Hart Merriam. Pp. 124, pls. 12. Reprint. Price 15 cents.
- North American Fauna No. 12. Genera and Subgenera of Voles and Lemmings. By Gerritt S. Miller, jr. Prepared under the direction of Dr. C. Hart Merriam, Chief of Division of Ornithology and Mammalogy. Pp. 84, pls. 3, figs. 12. Reprint. Price 10 cents.
- North American Fauna No. 13. Revision of the North American Bats of the Family *Vespertilionidæ*. By Gerritt S. Miller, jr. Prepared under the direction of Dr. C. Hart Merriam, Chief of Division of Biological Survey. Pp. 140, pls. 3, figs. 40. Reprint. Price 10 cents.
- Nut Culture in the United States. Embracing Native and Introduced Species. By W. P. Corsa, of the Division of Pomology. Pp. 144, pls. 16, 2 colored, figs. 2. (Special Report, Division of Pomology.) Reprint. Price 30 cents.

- Index to the Annual Reports of the U. S. Department of Agriculture for the Years 1837 to 1893, inclusive. Pp. 252. (Bulletin No. 1, Division of Publications.) Reprint. Price 15 cents.
- Observations on Cases of Mushroom Poisoning in the District of Columbia. By Frederick V. Coville, Botanist. Pp. 24, figs. 27. (Circular No. 13, Division of Botany.) Third edition. Reprint.
- The Army Worm (*Leucania unipuncta* Haw.). By L. O. Howard, Entomologist. Pp. 6, figs. 3. (Circular No. 4, second series, Division of Entomology.) Reprint.
- The Ox Warble (*Hypoderma lineata* Villers). By C. L. Marlatt, First Assistant Entomologist. Pp. 10, figs. 10. (Circular No. 25, second series, Division of Entomology.) Reprint.
- The True Clothes Moths (*Tinea pellionella et al.*). By C. L. Marlatt, First Assistant Entomologist. Pp. 8, figs. 3. (Circular No. 36, second series, Division of Entomology.) Reprint.
- The Blue Jay and Its Food. By F. E. L. Beal, Assistant Biologist, U. S. Department of Agriculture. Pp. 197–206, figs. 3. (Reprinted from the Yearbook of the Department of Agriculture for 1896.) Reprint.
- The Meadow Lark and Baltimore Oriole. By F. E. L. Beal, Assistant Ornithologist, U. S. Department of Agriculture. Pp. 419–430, figs. 2. (Reprinted from the Yearbook of the Department of Agriculture for 1895.) Reprint.
- A Directory for Farmers. Pp. 609–627. (Reprint from Yearbook of Department of Agriculture for 1898.)

#### FARMERS' BULLETINS.

- Good Roads for Farmers. By Maurice O. Eldridge, Assistant Director, Office of Road Inquiry. Pp. 47, figs. 49. (Farmers' Bulletin No. 95.)

Presents the primary principles of road building and maintenance, describes different kinds of roads and gives suggestions as to road building.

- Raising Sheep for Mutton. By Charles F. Curtiss, Director of the Iowa Agricultural Experiment Station. Pp. 48, figs. 18. (Farmers' Bulletin No. 96.)

Shows that the demand for good mutton is increasing and that the production of prime mutton is rapidly becoming a permanently established industry of vast proportions in the United States. The results of a number of feeding tests are given, and the method of cutting mutton, range lamb feeding, the value of improved blood, what constitutes a good sheep, etc., are discussed.

- Experiment Station Work—X. Prepared in the Office of Experiment Stations. Pp. 32, figs. 5. (Farmers' Bulletin No. 97.)

CONTENTS.—Manure from cows—Plants for alkali soils—Influence of alkali on plants—Feeding value of the corn plant—Sows and pigs at farrowing time—The soy bean as a feeding stuff—Alfalfa hay for hogs—Animal matter for poultry—Water and animal diseases—Construction and cooling of cheese—Curing rooms—Irrigation investigations.



Suggestions to Southern Farmers. Prepared in the Division of Publications. Pp. 48. (Farmers' Bulletin No. 98.)

Summaries of addresses delivered at an Interstate Farmers' Convention held at Vicksburg, Miss., February 8-10, 1899. They relate to soils, the peculiar advantages of the South for growing forage crops, raising and feeding live stock, cotton seed and its products, and other agricultural matters.

Three Insect Enemies of Shade Trees. By L. O. Howard, Entomologist. (Reprinted, with some annotations by the author, from the Yearbook of the Department of Agriculture for 1895.) Pp. 30, figs. 11. (Farmers' Bulletin No. 99.)

An account of the three species of shade tree insects which have attracted the greatest attention during the past season.

Hog Raising in the South. By S. M. Tracy, M. S., formerly director of the Mississippi Agricultural Experiment Station. Pp. 40. (Farmers' Bulletin No. 100.)

Shows that the South possesses advantages for profitable pork raising which do not exist elsewhere and contains much information in regard to the care, feeding, and breeding of hogs that will be of interest to farmers generally.

#### REPRINTS.

Washed Soils: How to Prevent and Reclaim Them. Published by authority of the Secretary of Agriculture. Pp. 22, figs. 6. (Farmers' Bulletin No. 20.)

Barnyard Manure. By W. H. Beal, of the Office of Experiment Stations. Pp. 32, figs. 7. (Farmers' Bulletin No. 21.)

The Feeding of Farm Animals. By E. W. Allen, Ph. D., Assistant Director of the Office of Experiment Stations. Pp. 32. (Farmers' Bulletin No. 22.)

Foods: Nutritive Value and Cost. By W. O. Atwater, Ph. D., Professor of Chemistry in Wesleyan University. Pp. 32, chart 1. (Farmers' Bulletin No. 23.)

Hog Cholera and Swine Plague. By D. E. Salmon, D. V. M., Chief of the Bureau of Animal Industry. Pp. 16. (Farmers' Bulletin No. 24.)

Peanuts: Culture and Uses. By R. B. Handy, of the Office of Experiment Stations. Pp. 24, fig. 1. (Farmers' Bulletin No. 25.)

Sweet Potatoes: Culture and Uses. By J. F. Duggar, of the Office of Experiment Stations. Pp. 30, figs. 4. (Farmers' Bulletin No. 26.)

Weeds: And How to Kill Them. By Lyster H. Dewey, Assistant Botanist. Pp. 32, figs. 11. (Farmers' Bulletin No. 28.)

Souring of Milk and Other Changes in Milk Products. Prepared in the Office of Experiment Stations. Pp. 23. (Farmers' Bulletin No. 29.)

Peach Growing for Market. By Erwin F. Smith, Division of Vegetable Physiology and Pathology. Pp. 24, figs. 21. (Farmers' Bulletin No. 33.)

- Meats: Composition and Cooking. By Chas. D. Woods, Office of Experiment Stations. Pp. 29. (Farmers' Bulletin No. 34.)
- Spraying for Fruit Diseases. By B. T. Galloway, Chief of Division of Vegetable Physiology and Pathology. Pp. 12, figs. 6. (Farmers' Bulletin No. 38.)
- Onion Culture. By R. L. Watts, B. Agr., Instructor in Horticulture at the University of Tennessee and Horticulturist of the Tennessee Agricultural Experiment Station. Pp. 31, figs. 3. (Farmers' Bulletin No. 39.)
- Farm Drainage. By C. G. Elliott, C. E., Member of the American Society of Civil Engineers, Peoria, Ill. Pp. 24, figs. 6. (Farmers' Bulletin No. 40.)
- Sheep Feeding. By John A. Craig, Professor of Animal Husbandry in the University of Wisconsin, under the Supervision of the Office of Experiment Stations. Pp. 24. (Farmers' Bulletin No. 49.)
- The Sugar Beet: Culture, Seed Development, Manufacture, and Statistics. By H. W. Wiley, Chief of the Division of Chemistry, and formerly Director of the Department Sugar Beet Experiment Station in Nebraska. Pp. 48, figs. 24. (Farmers' Bulletin No. 52.) Revised edition.
- Some Common Birds in Their Relation to Agriculture. By F. E. L. Beal, B. S., Assistant Ornithologist, Biological Survey. Pp. 40, figs. 22. (Farmers' Bulletin No. 54.)
- The Dairy Herd: Its Formation and Management. By Henry E. Alvord, C. E., Chief of Dairy Division, Bureau of Animal Industry. (Reprinted with revision by the author, from the Yearbook of the U. S. Department of Agriculture for 1894.) Pp. 24. (Farmers' Bulletin No. 55.)
- Bee Keeping. By Frank Benton, M. S., Assistant Entomologist. Pp. 32, figs. 19. (Farmers' Bulletin No. 59.)
- Marketing Farm Produce. By George G. Hill, formerly manager and editor of the American Farmer, Illinois. Pp. 28, figs. 7. (Farmers' Bulletin No. 62.)
- Care of Milk on the Farm. By R. A. Pearson, B. S., Assistant Chief of Dairy Division, Bureau of Animal Industry. Pp. 40, figs. 9. (Farmers' Bulletin No. 63.)
- Ducks and Geese: Standard Breeds and Management. By George E. Howard, Secretary of National Poultry and Pigeon Association. Pp. 48, figs. 37. (Farmers' Bulletin No. 64.)
- The Principal Insect Enemies of the Grape. By C. L. Marlatt, M. S., First Assistant Entomologist. Pp. 23, figs. 12. (Farmers' Bulletin No. 70.)
- Tomato Growing. By Edward B. Voorhees, M. A., Director of the New Jersey Agricultural Experiment Station and Professor of Agriculture, Rutgers College, New Brunswick, N. J. Pp. 30. Farmers' Bulletin No. 76.)



The Liming of Soils. By H. J. Wheeler, Ph. D., Chemist of the Rhode Island Agricultural Experiment Station. Pp. 19. (Farmers' Bulletin No. 77.)

Corn Culture in the South. By S. M. Tracy, M. S. Pp. 24. (Farmers' Bulletin No. 81.)

The Culture of Tobacco. By Otto Carl Butterweck. Pp. 24. (Farmers' Bulletin No. 82.)

Fish as Food. By C. F. Langworthy, Ph. D., Office of Experiment Stations. Pp. 30. (Farmers' Bulletin No. 85.)

Thirty Poisonous Plants of the United States. By V. K. Chesnut, Assistant Botanist, U. S. Department of Agriculture. Pp. 32, figs. 24. (Farmers' Bulletin No. 86.)

Alkali Lands. By Milton Whitney and Thomas H. Means. Pp. 23, fig. 1. (Farmers' Bulletin No. 88.)

#### PUBLICATIONS OF THE WEATHER BUREAU.

(For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.)

Weather Forecasting; Some Facts—Historical, Practical, and Theoretical. By Willis L. Moore, Chief, U. S. Weather Bureau. Pp. 16. (Bulletin No. 25, Weather Bureau.)

Lightning and Electricity of the Air. In two parts. Prepared under the direction of Willis L. Moore, Chief, U. S. Weather Bureau. By Alexander G. McAdie and Alfred J. Henry. Pp. 74, figs. 19, pls. 4. (Bulletin No. 26, Weather Bureau.)

Monthly Weather Review. April, 1899. Vol. XXVII, No. 4. Pp. 139–186, charts 11. Price 10 cents.

#### Charts of the Weather Bureau—

Climate and Crop Bulletin (series of 1899), reporting temperature and rainfall, with special reference to their effect on crops. (Nos. 12, 13, 14, and 15 for the month of June, 1899.)

Meteorological chart of the Great Lakes. (Contains data concerning fogs during April and May, normal precipitation, wind barometer table, etc.) Also chart for July.)

Daily Weather Map showing weather conditions throughout the United States and giving forecasts of probable changes.

#### PUBLICATION NOT AVAILABLE.

The Crop Reporter. Vol. 1, No. 2. Published by the U. S. Department of Agriculture, under the supervision of the Statistician. Pp. 4.

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GEO. WM. HILL,  
*Chief.*

Approved:  
JAMES WILSON,  
*Secretary of Agriculture.*

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# United States Department of Agriculture,

## DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., *July 31, 1899.*

### MONTHLY LIST OF PUBLICATIONS.

[July, 1899.]

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Description of a New Respiration Calorimeter and Experiments on the Conservation of Energy in the Human Body. By W. O. Atwater, Ph. D., Professor of Chemistry, Wesleyan University, and E. B. Rosa, Ph. D., Professor of Physics, Wesleyan University. Pp. 94, pls. 8, figs. 12. (Bulletin No. 63, Office of Experiment Stations.) Price 10 cents.

Recent Additions to Systematic Agrostology. Pp. 10, figs. 5. (Circular No. 15, Division of Agrostology.)  
Descriptions of important new genera of grasses.

New Species of North American Grasses. By F. Lamson-Scribner, Agrostologist. Pp. 6, figs. 2. (Circular No. 16, Division of Agrostology.)

Descriptions of nine new or little-known species of North American grasses.

Monthly List of Publications, June, 1899. Pp. 8. (No. 337, Division of Publications.)

Crop Circular for July, 1899. By John Hyde, Statistician. Pp. 8.

Report of acreage and condition of corn, potatoes, and tobacco, and condition of wheat, oats, barley, rye, cotton, clover, timothy, pastures, apples, peaches, and grapes; also a report on foreign crops.

### REPRINTS.

The Serum Treatment of Swine Plague and Hog Cholera. By E. A. de Schweinitz, Ph. D., M. D., Chief of Biochemic Division, with the collaboration of Marion Dorset, M. D., under the supervision of D. E. Salmon, D. V. M., Chief of the Bureau. Pp. 18. (Bulletin No. 23, Bureau of Animal Industry.) Price 5 cents.

Life Zones and Crop Zones of the United States. By C. Hart Merriam, Chief, Biological Survey. Pp. 79, 1 colored map. (Bulletin No. 10, Division of Biological Survey.) Price 10 cents.

The Geographic Distribution of Cereals in North America. By C. S. Plumb, B. S., Director, Indiana Agricultural Experiment Station, Purdue University, Lafayette, Ind. Prepared under the direction of Dr. C. Hart Merriam, Chief of Biological Survey. Pp. 24, maps 4 (1 colored). (Bulletin No. 11, Division of Biological Survey.) Price 10 cents.

Foods and Food Adulterants. Investigations made under direction of H. W. Wiley, Chief Chemist, with the collaboration of K. P. McElroy, W. H. Krug, T. C. Trescot, W. D. Bigelow, and others. Cereals and Cereal Products. Pp. vii, 1169-1374, pls. 7, figs. 4. (Bulletin No. 13, Part 9, Division of Chemistry.) Price 15 cents.

The Honey Bee: A Manual of Instruction in Apiculture. By Frank Benton, M. S., Assistant Entomologist. Pp. 118, pls. 11, figs. 76. (Bulletin No. 1, new series, Division of Entomology.) Third edition. Price 15 cents.

Improvement of Plants by Selection. By Herbert J. Webber, Special Agent, Division of Vegetable Physiology. Pp. ii, 356-376, pls. 2, figs. 3. (Reprint from Yearbook of Department of Agriculture for 1898.)

Sand-Binding Grasses. By F. Lamson-Scribner, Agrostologist. Pp. ii, 405-420, pls. 3, figs. 11. (Reprint from Yearbook of Department of Agriculture for 1898.)

Some Results of Dietary Studies in the United States. By A. P. Bryant, of the Office of Experiment Stations. Pp. ii, 439-452. (Reprint from Yearbook of Department of Agriculture for 1898.)

#### FARMERS' BULLETIN.

Millet. By Thomas A. Williams, Assistant Agrostologist. Pp. 28. figs. 6. (Farmers' Bulletin No. 101.)

Descriptions of several varieties of millets, and a discussion of their uses, feeding and fertilizing value, composition and digestibility.

#### PUBLICATIONS OF THE WEATHER BUREAU.

(For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.)

Property Loss by Lightning, 1898, with Some General Directions as to the Erection of Lightning Rods. Extract from Bulletin No. 26. Prepared under the direction of Willis L. Moore, Chief U. S. Weather Bureau. By Alfred J. Henry and Alexander G. McAdie. Pp. 16.

Monthly Weather Review, May, 1899. Vol. XXVII, No. 5. Pp. 187-241, charts 8, pls. 6. Price 10 cents.



## Charts of the Weather Bureau—

Climate and Crop Bulletin (series of 1899), reporting temperature and rainfall, with special reference to their effect on crops. (Nos. 16, 17, 18, and 19, for the month of July, 1899.)

Brazos River Flood Bulletin. (Report of rainfall and flood in the valley of the Brazos River and other contiguous valleys in Texas.)

Meteorological chart of the Great Lakes. (Contains data concerning fogs during June and July, normal precipitation, wind barometer table, etc.)

Daily Weather Map showing weather conditions throughout the United States and giving forecasts of probable changes.

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GEO. WM. HILL,  
*Chief.*

Approved:  
JAMES WILSON,  
*Secretary of Agriculture.*

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# United States Department of Agriculture,

## DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., *August 31, 1899.*

### MONTHLY LIST OF PUBLICATIONS.

[August, 1899.]

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North American Fauna No. 15. Revision of the Jumping Mice of the Genus *Zapus*. By Edward A. Preble, Assistant in Biological Survey. Prepared under the direction of Dr. C. Hart Merriam, Chief of Division of Biological Survey. Pp. 42, pl. 1, figs. 4. Price 5 cents.

Accessions to the Department Library. April-June, 1899. Pp. 23. (Library Bulletin No. 28.) Price 5 cents.

Revised Catalogue of Fruits Recommended for Cultivation in the Various Sections of the United States and the British Provinces by the American Pomological Society. Revised by a committee of the Society, W. H. Ragan, chairman. Pp. 63, map. (Bulletin No. 8, Division of Pomology.) Price 5 cents.

Crimson Clover Seed. By A. J. Pieters, in charge of Pure Seed Investigations. Pp. 4, fig. 1. (Circular No. 18, Division of Botany.)

Description of the seed and of germination tests to determine its vitality.

Practical Assistance to Tree Planters. By Gifford Pinchot, Forester. Pp. 11, figs. 5. (Circular No. 22, Division of Forestry.)

An outline of a plan adopted by the Division of Forestry to give such aid to tree planters that woodlots, shelterbelts, windbreaks, and all other economic plantations of forest trees may be so well established and cared for as to attain the greatest usefulness and most permanent value to their owners.

List of Bulletins and Circulars issued by the U. S. Department of Agriculture and Available for Free Distribution. Pp. 20. (No. 247, Division of Publications.) Fourth edition. Corrected to July 1, 1899.

Monthly List of Publications, July, 1899. (No. 341, Division of Publications.)

Crop Circular for August, 1899. By John Hyde, Statistician. Pp. 4.

Report of acreage and crop conditions August 1, weather conditions during July, and tables showing condition of the various crops by States.

Experiment Station Record, Vol. XI, No. 1. Pp. vi, 1-100. Price 10 cents.

The Record contains numerous abstracts of the publications of the agricultural experiment stations and kindred institutions in this and other countries; articles and editorials on topics of special interest in agricultural science by American and foreign experts and notes on the experimental stations.

NOTE.—For the convenience of those who desire to receive this publication regularly the Superintendent of Documents has decided to fix the price per volume (12 numbers) beginning with Vol. VIII, at \$1, payable in advance.

#### REPRINTS.

Methods of Analysis Adopted by the Association of Official Agricultural Chemists, November 11, 12, and 14, 1898. Edited by Harvey W. Wiley, Secretary. Pp. 86, figs. 4. (Bulletin No. 46, Division of Chemistry.) Revised edition. Price 10 cents.

Insects Affecting Domestic Animals; An Account of the Species of Importance in North America, with Mention of Related Forms Occurring on Other Animals. Prepared under the direction of the Entomologist, by Herbert Osborn, Professor of Zoology and Entomology, Iowa Agricultural College, Ames, Iowa. Pp. 302, pls. 5, figs. 170. (Bulletin No. 5, new series, Division of Entomology.) Price 20 cents.

The Hop Plant Louse and the Remedies to be Used Against It. Pp. 7, pl. 1, figs. 5. (Circular No. 2, second series, Division of Entomology.)

#### FARMERS' BULLETINS.

Southern Forage Plants. Compiled from the publications of the Division of Agrostology by F. Lamson-Scribner, Agrostologist. Pp. 48, figs. 14. (Farmers' Bulletin No. 102.)

Descriptions of the more important hay and pasture plants suitable to the South and suggestions as to the formation and care of pastures.

Notes on Frost. By E. B. Garriott, Professor of Meteorology, Weather Bureau. Pp. 24. (Farmers' Bulletin No. 104.)

Defines frost and the conditions which favor its formation, and indicates methods of protection which have been found practicable by actual experiments.

#### REPRINT.

Standard Varieties of Chickens. By George E. Howard, Secretary of National Poultry and Pigeon Association, under the supervision of Dr. D. E. Salmon, Chief of Bureau of Animal Industry. Revised edition. Pp. 48, figs. 42. (Farmers' Bulletin No. 51.)

#### PUBLICATIONS OF THE WEATHER BUREAU.

(For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.)

Climatology of the Isthmus of Panama. By Henry L. Abbot, Brevet Brigadier-General, U. S. A. (retired). Published by direction of Willis L. Moore, Chief U. S. Weather Bureau. Pp. 19, figs. 5.



Monthly Weather Review. June, 1899. Vol. XXVII, No. 6. Pp. 243-285, charts 9. Price 10 cents.

Charts of the Weather Bureau—

Climate and Crop Bulletin (series of 1899), reporting temperature and rainfall, with special reference to their effect on crops. (Nos. 20, 21, 22, 23, and 24.)

Storm Bulletin No. 1, 1899. (History of the West Indian Hurricane of August 7-14, 1899.)

Daily Weather Map showing weather conditions throughout the United States and giving forecasts of probable changes.

PUBLICATIONS NOT AVAILABLE.

Selection and Its Effects on Cultivated Plants. By Henry L. De Vilmorin. Pp. 19. [Reprinted from Experiment Station Record, Vol. XI, No. 1.]

The Crop Reporter. Vol. 1, No. 4. Published by the U. S. Department of Agriculture, under the supervision of the Statistician. Pp. 4.

A three column quarto newspaper devoted to agricultural topics. It is for the benefit and information of crop correspondents exclusively and is mailed to them only.

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# United States Department of Agriculture,

## DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., *September 30, 1899.*

### MONTHLY LIST OF PUBLICATIONS.

[September, 1899.]

(To obtain those publications to which a Price is affixed, application should be made to the Superintendent of Documents, Union Building, Washington, D. C. See accompanying notes (page 4) regarding Department publications.)

**Blackleg in the United States and the Distribution of Vaccine by the Bureau of Animal Industry.** By Victor A. Nørgaard, V. S. (Copenhagen), Chief of Pathological Division, Bureau of Animal Industry. Pp. iii, 27-81, pls. 2, figs. 3. (Reprinted from the Annual Report of the Bureau of Animal Industry for 1898.)

**Experimental Exports of Butter, 1897.** By Henry E. Alvord, C. E., Chief of Dairy Division. Pp. 83-136, pl. 1, figs. 5, diag. 1. (Reprinted from Fifteenth Annual Report of the Bureau of Animal Industry.)

**Breeds of Dairy Cattle.** By Henry E. Alvord, C. E., Chief of Dairy Division. Pp. 137-200, frontispiece, figs. 25. (Reprinted from Fifteenth Annual Report of the Bureau of Animal Industry.)

**A Primer of Forestry. Part I.—The Forest.** By Gifford Pinchot, Forester. Pp. 88, frontispiece, pls. 47, figs. 83. 12mo, cloth. (Bulletin No. 24, Division of Forestry.) Price 35 cents.

Deals with the units which compose the forest, with its character as an organic whole, and with its enemies. It is divided into four chapters. The first treats of the life of the tree; the second discusses the various requirements of trees; the third gives the life history of a forest; and the fourth is devoted to the enemies of the forest, of which fires and reckless lumbering are the worst.

The publication is designed especially for educational distribution.

**Notes on the Forest Conditions of Porto Rico.** By Robert T. Hill, Geologist, U. S. Geological Survey. Pp. 48, frontispiece, pls. 8, figs. 9. (Bulletin No. 25, Division of Forestry.) Price 10 cents.

Report on the forest resources of Porto Rico, the extent of its timber lands, and descriptions of the physical features of the island.

**Studies on Bread and Bread Making.** By Harry Snyder, B. S., and L. A. Voorhees, M. A. Pp. 51, pls. 2, figs. 3. (Bulletin No. 67, Office of Experiment Stations.) Price 10 cents.

Results of investigations on bread and bread making at the University of Minnesota in 1897 and 1898; also the result of experiments showing the losses in the process of bread making.

**Cereal Rusts of the United States: A Physiological Investigation.**

By Mark Alfred Carleton, Assistant, Division of Vegetable Physiology and Pathology. Pp. 74, pls. 4, fig. 1. (Bulletin No. 16, Division of Vegetable Physiology and Pathology.) Price 10 cents.

Description of the several species of rusts affecting cereals in the United States, their distribution, and results of observations and experiments to determine the rust resistance of numerous varieties of wheat and oats.

**Crimson Clover.** By Thomas A. Williams, Assistant Agrostologist. Pp. 6, fig. 1. (Circular No. 17, Division of Agrostology.)

Description of this European forage plant and conditions of growth, directions for culture, and statement of its uses.

Scales of Points in Use in the United States for Judging the Dairy Breeds of Cattle. Breeds Included: Ayrshires, Brown Swiss, Devons, Dutch Belted, Guernseys, Holstein-Friesians, Jerseys, and Shorthorns. Pp. 16, fig. 1. (Circular No. 27, Bureau of Animal Industry. Reprinted from the Fifteenth Annual Report of the Bureau of Animal Industry.)

Monthly List of Publications, August, 1899. (No. 343, Division of Publications.)

Crop Circular for September, 1899. By John Hyde, Statistician. Pp. 4.

Report on condition of corn, wheat, oats, barley, rye, buckwheat, cotton, tobacco, potatoes, sugar cane, sorghum, rice, clover seed, apples, peaches, and grapes; also number of stock hogs for fattening, weather condition August 1 to 28, 1899, and table of condition of crops by States and Territories.

The Brazos River (Texas) Flood of June-July, 1899, and Its Effect Upon the Agriculture of the Submerged Region. By E. S. Holmes, jr., of the Division of Statistics. Pp. 8. (Circular No. 10, Division of Statistics.)

A report on the losses of crops and farm property by the Brazos River flood, and the probable effect upon agriculture in the submerged district.

#### REPRINTS.

List of Publications Relating to Forestry in the Department Library. Prepared under the direction of the Librarian. Pp. 93. (Library Bulletin No. 24.) Price 15 cents.

An Electrical Method of Determining the Moisture Content of Arable Soils. By Milton Whitney, Frank D. Gardner, and Lyman J. Briggs. Pp. 26, figs. 6. (Bulletin No. 6, Division of Soils.) Price 5 cents.

An Electrical Method of Determining the Temperature of Soils. By Milton Whitney and Lyman J. Briggs. Pp. 15, fig. 1. (Bulletin No. 7, Division of Soils.) Price 5 cents.

An Electrical Method of Determining the Soluble Salt Content of Soils, with Some Results of Investigations on the Effect of Water and Soluble Salts on the Electrical Resistance of Soils. By Milton Whitney and Thos. H. Means. Pp. 30, figs. 6. Bulletin No. 8, Division of Soils.) Price 5 cents.

Soil Moisture: A Record of the Amount of Water Contained in Soils during the Crop Season of 1896. By Milton Whitney and Ralph S. Hosmer. Pp. 23, diags. 12. (Bulletin No. 9, Division of Soils.) Price 5 cents.

The Mechanics of Soil Moisture. By Lyman J. Briggs, Physicist, Division of Soils. Pp. 24, figs. 7. (Bulletin No. 10, Division of Soils.) Price 5 cents.

Factory Cheese and How It is Made. By G. Merry, of Verona, N. Y. Pp. 8. (Circular No. 19, Bureau of Animal Industry.)

Crimson Clover Seed. By A. J. Pieters, in charge of Pure Seed Investigations. Pp. 4, fig. 1. (Circular No. 18, Division of Botany.)

New Spraying Devices. By B. T. Galloway, Chief of Division. Pp. 4, figs. 3. (Circular No. 17, Division of Vegetable Physiology and Pathology.)

Pruning of Trees and Other Plants. By William Saunders, Horticulturist. Pp. ii, 151-166. (Reprint from Yearbook of Department of Agriculture for 1898.)



## FARMERS' BULLETINS.

**Experiment Station Work—XI.** Prepared in the Office of Experiment Stations, A. C. True, Director. Pp. 32, figs. 5. (Farmers' Bulletin No. 103.)

CONTENTS: Excessive irrigation—Cross-pollination of plums—Root pruning of fruit trees—The oxeye daisy—Poisoning by wild cherry leaves—Preserving eggs—Gestation in cows—The long clam—Silage for horses and hogs—Commercial butter cultures with pasteurized cream—The stave silo.

## REPRINTS.

**Care of Milk on the Farm.** By R. A. Pearson, B. S., Assistant Chief of Dairy Division, Bureau of Animal Industry. Pp. 40, figs. 6. (Farmers' Bulletin No. 63.)

**Experiment Station Work—II.** Pp. 32, figs. 7. (Farmers' Bulletin No. 65.)

**Experiment Station Work—III.** Prepared in the Office of Experiment Stations. Pp. 32, figs. 2. (Farmers' Bulletin No. 69.)

**Experiment Station Work—VI.** Prepared in the Office of Experiment Stations. Pp. 28, figs. 2. (Farmers' Bulletin No. 79.)

**The Peach Twig-Borer: An Important Enemy of Stone Fruits.** By C. L. Marlatt, M. S., First Assistant Entomologist. Pp. 16, figs. 5. (Farmers' Bulletin No. 80.)

**Experiment Station Work—VIII.** Prepared in the Office of Experiment Stations. Pp. 32, figs. 6. (Farmers' Bulletin No. 87.)

## PUBLICATIONS OF THE WEATHER BUREAU.

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**An Advance in Measuring and Photographing Sounds.** By Benjamin F. Sharpe, M. A., Fellow in Clark University; some time Professor in Randolph Macon College, Virginia; Honorary scholar in Johns Hopkins University; Professor in the State Normal School at New Paltz, New York. Published by direction of Willis L. Moore, Chief U. S. Weather Bureau. Pp. 18, pls. 7, figs. 3. (Weather Bureau No. 202.)

**Variations in Lake Levels and Atmospheric Precipitation.** Prepared under direction of Willis L. Moore, Chief U. S. Weather Bureau, by Alfred J. Henry, Chief, Division of Records and Meteorological Data. Pp. 8, diags. 3.

**Monthly Weather Review.** July, 1899. Vol. XXVII, No. 7. Pp. 287–341, pls. 3, charts 8. Price 10 cents.

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**Tea Culture.** The Experiment in South Carolina. By Dr. Charles U. Shepard, Special Agent in Charge Tea Culture Investigations. Pp. 27, pls. 9, figs. 4. (Report No. 61.) Price 10 cents.

Report of the results of the experiment of raising tea on the Pinehurst estate, Summerville, S. C., description of method of curing tea, and illustrations of grounds, buildings, and machinery.

**Cultivation of Cigar Leaf Tobacco in Florida.** By Marcus L. Floyd, of the Division of Soils, in cooperation with the Division of Vegetable Physiology and Pathology. Pp. 31, pls. 8, figs. 6. (Report No. 62.) Price 10 cents.

History of the development of the tobacco industry in Florida and descriptions of the methods of cultivation, curing, and packing.

**Asthenia (Going Light) in Fowls.** Laboratory Methods for the Diagnosing of Certain Micro-organismal Diseases. Vitality and Retention of Virulence by Certain Pathogenic Bacteria in Milk and Its Products. Articles by Charles F. Dawson, M. D., Veterinary Inspector, Bureau of Animal Industry. Pp. 329-368 and 224-228, pls. 8. (Reprinted from Fifteenth Annual Report of the Bureau of Animal Industry.)

**North American Fauna No. 16.** Results of a Biological Survey of Mount Shasta, California. By C. Hart Merriam, Chief of Division of Biological Survey. Pp. 179, pls. 5, figs. 46. Price 20 cents.

Limited edition—no general distribution.

**Contributions from the U. S. National Herbarium.** Vol. V, No. 4. Studies of Mexican and Central American Plants—No. 2. By J. N. Rose. Two New Species of Plants from the Northwestern United States. By L. F. Henderson. *Hesperogenia*, A New Genus of Umbelliferae from Mount Rainier. By J. M. Coulter and J. N. Rose. Three New Species of *Tradescantia* from the United States. By J. N. Rose. *Treleasea*, A New Genus of Commelinaceae. By J. N. Rose. Notes on Useful Plants of Mexico. By J. N. Rose. Pp. viii, 145-259, viii, pls. 47, figs. 26. Price 25 cents.

Limited edition—no general distribution.

Preliminary Catalogue of Plants Poisonous to Stock. By V. K. Chesnut, B. S., Assistant, Division of Botany, Department of Agriculture. Pp. iii, 387-420, iv. (Reprinted from the Annual Report of the Bureau of Animal Industry for 1898.)

Experiments on the Metabolism of Matter and Energy in the Human Body. By W. O. Atwater, Ph. D., and F. G. Benedict, Ph. D., with the Cooperation of A. W. Smith and A. P. Bryant, M. S. Pp. 112. (Bulletin No. 69, Office of Experiment Stations.) Price 10 cents.

Detailed description of six experiments upon the metabolism of matter and energy in the human body, which have for their ultimate object a study of the fundamental laws of nutrition.

Water-Right Problems of Bear River. By Clarence T. Johnson and Joseph A. Breckons. Pp. 40, pls. 9. (Bulletin No. 70, Office of Experiment Stations.) Price 15 cents.

Presents some of the water-right complications of interstate streams.

Proceedings of the Twelfth Annual Convention of the Association of American Agricultural Colleges and Experiment Stations, held at Washington, D. C., November 15-17, 1898. Edited by A. C. True and W. H. Beal for the Office of Experiment Stations, and H. H. Goodell for the Executive Committee of the Association. Pp. 138. (Bulletin No. 65, Office of Experiment Stations.) Price 10 cents.

Experiment Station Record, Vol. XI, No. 2. Pp. vii, 101-200. Price 10 cents.

The Record contains numerous abstracts of the publications of the agricultural experiment stations and kindred institutions in this and other countries; articles and editorials on topics of special interest in agricultural science by American and foreign experts and notes on the experiment stations.

NOTE.—For the convenience of those who desire to receive this publication regularly the Superintendent of Documents has decided to fix the price per volume (12 numbers) beginning with Vol. VIII, at \$1, payable in advance.

The White Pine (*Pinus Strobus* Linn.). By V. M. Spalding, professor of botany in the University of Michigan. Revised and enlarged by B. E. Fernow, Chief of the Division of Forestry. With contributions: Insect Enemies of the White Pine, by F. H. Chittenden, Division of Entomology. The Wood of the White Pine, by Filibert Roth, Division of Forestry. Pp. 185, frontispiece, pls. 13, figs. 40. Quarto. (Bulletin No. 22, Division of Forestry.) Price 40 cents.

A monograph describing the geographical distribution, natural history, growth, development, dangers, diseases, and insect enemies of the white pine. (Submitted for publication prior to Dr. Fernow's resignation as Chief of the Division of Forestry.)

Insect Enemies of the White Pine. By F. H. Chittenden, Division of Entomology. Pp. 55-61, figs. 10. (Reprinted from Bulletin No. 22, Division of Forestry.)

Fourth Report of Committee on Methods of Teaching Agriculture. Pp. 7. (Circular No. 41, Office of Experiment Stations.)

Statement of a few of the general considerations on which the work of the committee has been based, and syllabus of a course in zootechny.



Monthly List of Publications, September, 1899. (No. 351, Division of Publications.)

The World's Grain Crops in 1899. By John Hyde, Statistician. Pp. 8. (Circular No. 11, Division of Statistics.)

Analysis of three estimates of the world's wheat crop of 1899, and estimates of other grain crops.

Crop Circular for October, 1899. By John Hyde, Statistician. Pp. 4.

Report of the condition of corn, buckwheat, potatoes, cotton, tobacco, sugar cane, sorghum, rice, sweet potatoes, and apples, and estimates of yield of oats, barley, rye, and hops; also estimates of foreign crops.

#### FARMERS' BULLETIN.

Breeds of Dairy Cattle. By Henry E. Alvord, C. E., Chief of Dairy Division, Bureau of Animal Industry. Pp. 48, figs. 21. (Farmers' Bulletin No. 106.) Reprinted from the Report of the Bureau of Animal Industry for 1898.

Definition of breed, origin of breed, number of pedigreed dairy cattle in the United States, and description of the various breeds of dairy cattle.

#### REPRINTS.

Methods of Analysis Adopted by the Association of Official Agricultural Chemists November 11, 12, and 14, 1898. Edited by Harvey W. Wiley, Secretary. Pp. 86, figs. 4. (Bulletin No. 46, Division of Chemistry.) Revised edition. Price 5 cents.

Proceedings of the Fifteenth Annual Convention of the Association of Official Agricultural Chemists, held at Washington, D. C., November 11, 12, and 14, 1898. Edited by Harvey W. Wiley, Secretary of the Association. Pp. 140. (Bulletin No. 56, Division of Chemistry.) Price 10 cents.

Practical Assistance to Tree Planters. By Gifford Pinchot, Forester. Pp. 11, figs. 5. (Circular No. 22, Division of Forestry.)

#### PUBLICATIONS OF THE WEATHER BUREAU.

(For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.)

Monthly Weather Review. August, 1899. Vol. XXVII, No. 8. Pp. 343-393, pls. 2, charts 12. Price 10 cents.

Charts of the Weather Bureau—

Meteorological chart of the Great Lakes. November. (Contains data concerning fogs, storms, winds, etc.)

Daily Weather Map showing weather conditions throughout the United States and giving forecasts of probable changes.

## PUBLICATIONS NOT AVAILABLE.

## DEPARTMENTAL.

The Crop Reporter. Vol. 1, No. 6. Published by the U. S. Department of Agriculture, under the supervision of the Statistician. Pp. 4.

A three column quarto newspaper devoted to agricultural topics. It is for the benefit and information of crop correspondents exclusively and is mailed to them only.

## CONGRESSIONAL.

Fifteenth Annual Report of the Bureau of Animal Industry for the Year 1898. Pp. 647, frontispiece, pls. 25, figs. 69. Price, cloth, 75 cents.

CONTENTS: Report of the Chief—Blackleg in the United States and the distribution of vaccine by the Bureau of Animal Industry—Report upon experimental exports of butter, 1897—Breeds of dairy cattle—Fifty dairy rules—Meat and milk inspection in Shanghai—Agriculture and dairying in Scotland—The vitality and retention of certain pathogenic bacteria in milk and its products—Colored spots in cheese—The serum treatment for swine plague and hog cholera—Experiments in “stamping out” hog cholera in Page County, Iowa—The enzymes, or soluble ferments, of the hog cholera germ—The production of immunity in guinea pigs from hog cholera by the use of blood serum from immunified animals—Inoculation to produce immunity from Texas fever in northern cattle—Investigations concerning tuberculosis and glanders—Asthenia (going light) in fowls—Laboratory methods for the diagnosis of certain micro-organismal diseases—Breeding zebroids—The military administration of Germany in its relation to national horse breeding—The cattle industry of Colorado, Wyoming, and Nevada, and the sheep industry of Colorado in 1897—A cattle disease in Marshall County, Kansas—A cattle disease in Uruguay—The cattle tick and tuberculosis in New South Wales—Preliminary catalogue of plants poisonous to stock—Feeding wild plants to sheep—Cooperation between the experiment station veterinarian and the local veterinarian—Contagious diseases of animals in European countries—American animals and animal productions in Great Britain—Some agricultural experiment station work—Extracts from consular reports—Extracts from correspondence—Movement of farm animals—Range or average price of farm animals at Chicago—Imports and exports of animals and animal products, 1897 and 1898—Number and values of farm animals, 1897 and 1898—State livestock sanitary boards, secretaries of State boards of health, etc.—Rules and regulations of the Bureau of Animal Industry.

This is a Congressional publication and but a limited number is assigned to the Department, the remainder being for distribution by Senators, Representatives, and Delegates in Congress.

Report upon the Forestry Investigations of the U. S. Department of Agriculture, 1877–1898. By B. E. Fernow, formerly Chief of the Division of Forestry, U. S. Department of Agriculture. Pp. 401, pls. 32, figs. 105. House Doc. No. 181, Fifty-fifth Cong., third session. (Prepared in accordance with a provision of the act making appropriations for the Department of Agriculture for the fiscal year ending June 30, 1899.)

A résumé of the work of the Division of Forestry, U. S. Department of Agriculture, from the year 1877 to 1898.

Published exclusively for Congress. None for distribution.

Approved:

JAMES WILSON,

*Secretary of Agriculture.*

GEO. WM. HILL,

*Chief.*



This circular will be sent regularly to all who apply for it.

# United States Department of Agriculture,

## DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., November 29, 1899.

### MONTHLY LIST OF PUBLICATIONS.

[November, 1899.]

(To obtain those publications to which a Price is affixed, application should be made to the Superintendent of Documents, Union Building, Washington, D. C.)

Proceedings of the Eleventh Annual Meeting of the Association of Economic Entomologists. Pp. 111, figs. 4. (Bulletin No. 20, new series, Division of Entomology.) Price 10 cents.

A Description of Some Chinese Food Materials and Their Nutritive and Economic Value. By Walter C. Blasdale, Instructor in Chemistry, University of California. Pp. 48, pls. 8. (Bulletin No. 68, Office of Experiment Stations.) Price 10 cents.

Results of a study of the most important of the vegetable food materials found in the Chinese markets of San Francisco. These comprise roots, tubers, green vegetables, cucurbits, seeds, grain, fruits, nuts, fungi, algæ, etc.

Practical Forestry in the Adirondacks. By Henry S. Graves, Superintendent of Working Plans. Pp. 85, pls. 22. (Bulletin No. 26, Division of Forestry.) Price 15 cents.

A discussion of the forestry problem in the Adirondacks; a description of the Nehasane Park and Whitney Preserve, and the forests growing on them; and a special study of the habits, growth, and production of the spruce, with brief mention of the associated species. A full account of the work done on the two preserves is given in the latter part of the report.

Accessions to the Department Library. July–September, 1899. Pp. 21. (Library Bulletin No. 29.) Price 5 cents.

Wilt Disease of Cotton, Watermelon, and Cowpea (*Neocosmopora* nov. gen.). By Erwin F. Smith, Pathologist. Pp. 72, pls. 10. (Bulletin No. 17, Division of Vegetable Physiology and Pathology.) Price 15 cents.

Reports the results of investigations of a disease which has caused serious loss to the growers of cotton and other Southern crops. The report is technical and will form the basis for a fuller work looking toward the restriction and prevention of the disease.

Hop Cultivation in Bohemia. By David G. Fairchild, Agricultural Explorer. Pp. 6. (Circular No. 19, Division of Botany.)

Report on Saaz and Auscha hops: Climatic conditions, effect of soil on quality of product, where the best hops are grown, methods of training the vines, when and how the cuttings are planted, etc.

Food—Nutrients—Food Economy. By A. C. True, Director. Pp. 6, diags. 2. (Circular No. 43, Office of Experiment Stations.)

Shows the composition and nutritive content of various kinds of food.

Monthly List of Publications, October, 1899. (No. 356, Division of Publications.)

The Soils of the Pecos Valley, New Mexico. By Thos. H. Means and Frank D. Gardner, Assistants, Division of Soils. Pp. 7. (Circular No. 3, Division of Soils.)

A brief review of the results of the work of a party sent to map the soils of the irrigated districts of the Pecos Valley, New, Mexico, with particular reference to the extent of and damage from "alkali" and seepage waters, and to investigate methods for the prevention of further damage and for the reclamation of lands already abandoned from these causes.

Crop Circular for November, 1899. By John Hyde, Statistician. Pp. 4.

Estimates of yield of domestic and foreign crops; also a table giving the average yield and average quality of certain crops by States and Territories.

#### REPRINTS.

A Report to Congress on Agriculture in Alaska, Including Reports by Walter H. Evans, Benton Killin, and Sheldon Jackson. Prepared under the supervision of A. C. True, Director of the Office of Experiment Stations. Pp. iii, 36, pls. 23. (Bulletin No. 48, Office of Experiment Stations.) Price 10 cents.

Officials, Associations, and Educational Institutions connected with the Dairy Interests for the Year 1899. By Henry E. Alvord, Chief of Dairy Division. Pp. 8. (Circular No. 26, Bureau of Animal Industry.)

Practical Assistance to Tree Planters. By Gifford Pinchot, Forester. Pp. 11, figs. 5. (Circular No. 22, Division of Forestry.)

#### FARMERS' BULLETINS.

Experiment Station Work—XII. Prepared in the Office of Experiment Stations, A. C. True, Director. Pp. 32, figs. 4. (Farmers' Bulletin No. 105.)

CONTENTS.—Seaweed—The tillering of grains—Fertilizers for garden crops—Sweet corn and pole beans under glass—Girdling grapevines—Cereal breakfast foods—Food value of stone fruits—When to cut alfalfa—Spontaneous combustion of hay—Preservation of milk by pressure—Cream raising by dilution.

#### REPRINTS.

Sweet Potatoes: Culture and Uses. By J. F. Duggar, of the Office of Experiment Stations. Pp. 30, figs. 4. (Farmers' Bulletin No. 26.)

Cotton Seed and its Products. Prepared in the Office of Experiment Stations. Pp. 16. (Farmers' Bulletin No. 36.)

Kafir Corn: Characteristics, Culture, and Uses. By C. C. Georgeon, Professor of Agriculture in Kansas State Agricultural College. Pp. 12, fig. 1. (Farmers' Bulletin No. 37.)

Facts About Milk. By R. A. Pearson, B. S., Assistant Chief, Dairy Division, Bureau of Animal Industry. Pp. 29, figs. 8. (Farmers' Bulletin No. 42.)



Sewage Disposal on the Farm and the Protection of Drinking Water. By Theobald Smith, M. D., Professor in Harvard University, Pathologist to the Massachusetts State Board of Health, etc. Pp. 20, figs. 8. (Farmers' Bulletin No. 43.)

Commercial Fertilizers: Composition and Use. By Edward B. Voorhees, M. A., Director of the New Jersey Agricultural Experiment Stations and Professor of Agriculture in Rutgers College. Under the Supervision of the Office of Experiment Stations. Pp. 24. (Farmers' Bulletin No. 44.)

The Manuring of Cotton. (Condensed from an article by H. C. White, Ph. D., in Bulletin No. 33, of the Office of Experiment Stations.) Pp. 16. (Farmers' Bulletin No. 48.)

Sorghum as a Forage Crop. By Thomas A. Williams, Assistant Agrostologist. Prepared under the direction of the Agrostologist. Pp. 20, fig. 1. (Farmers' Bulletin No. 50.)

The Sugar Beet: Culture, Seed Development, Manufacture, and Statistics. By H. W. Wiley, Chief of the Division of Chemistry, and formerly Director of the Department Sugar Beet Experiment Station in Nebraska. Pp. 48, figs. 24. (Farmers' Bulletin No. 52.) Revised edition.

Some Common Birds in Their Relation to Agriculture. By F. E. L. Beal, B. S., Assistant Ornithologist, Biological Survey. Pp. 40, figs. 22. (Farmers' Bulletin No. 54.)

The Dairy Herd: Its Formation and Management. By Henry E. Alvord, C. E., Chief of Dairy Division, Bureau of Animal Industry. (Reprinted, with revision by the author, from the Yearbook of the U. S. Department of Agriculture for 1894.) Pp. 24. (Farmers' Bulletin No. 55.)

Experiment Station Work—I. Prepared in the Office of Experiment Stations. Pp. 31, figs. 10. (Farmers' Bulletin No. 56.)

Asparagus Culture. By R. B. Handy, Division of Publications. Pp. 40, figs. 17. (Farmers' Bulletin No. 61.)

Marketing Farm Produce. By George G. Hill, formerly manager and editor of The American Farmer, Illinois. Pp. 28, figs. 7. (Farmers' Bulletin No. 62.)

Care of Milk on the Farm. By R. A. Pearson, B. S., Assistant Chief of Dairy Division, Bureau of Animal Industry. Pp. 40, figs. 9. (Farmers' Bulletin No. 63.)

The Principal Insect Enemies of the Grape. By C. L. Marlatt, M. S., First Assistant Entomologist. (Reprinted from original plates from the Yearbook of the Department of Agriculture for 1895.) Pp. 23, figs. 12. (Farmers' Bulletin No. 70.)

Milk as Food. Prepared in the Office of Experiment Stations. Pp. 39, charts 2. (Farmers' Bulletin No. 74.)

Experiment Station Work—V. Prepared in the Office of Experiment Stations. Pp. 32, figs. 2. (Farmers' Bulletin No. 78.)

Tobacco Soils. By Milton Whitney, Chief of Division of Soils.  
Pp. 23, fig. 1. (Farmers' Bulletin No. 83.)

Experiment Station Work—VII. Prepared in the Office of Experiment Stations. Pp. 32, figs. 8. (Farmers' Bulletin No. 84.)

Good Roads for Farmers. By Maurice O. Eldridge, Assistant Director, Office of Road Inquiry. Pp. 47, figs. 49. (Farmers' Bulletin No. 95.)

#### PUBLICATIONS OF THE WEATHER BUREAU.

(For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.)

Monthly Weather Review. September, 1899. Vol. XXVII, No. 9.  
Pp. 395-448, charts 11. Price 10 cents.

#### Charts of the Weather Bureau—

Climate and Crop Bulletin (series of 1899), reporting temperature and rainfall, with special reference to their effect on crops. (No. 29, for October, 1899.)

Daily Weather Map showing weather conditions throughout the United States and giving forecasts of probable changes.

#### PUBLICATION NOT AVAILABLE.

The Crop Reporter. Vol. 1, No. 7. Published by the U. S. Department of Agriculture, under the supervision of the Statistician.  
Pp. 4.

A three column quarto newspaper devoted to agricultural topics. It is for the benefit and information of crop correspondents exclusively and is mailed to them only.

GEO. WM. HILL,  
*Editor and Chief.*

Approved:

JAMES WILSON,  
*Secretary of Agriculture.*



This circular will be sent regularly to all who apply for it.

# United States Department of Agriculture,

## DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., *December 30, 1899.*

### MONTHLY LIST OF PUBLICATIONS.

[December, 1899.]

(To obtain those publications to which a Price is affixed, application should be made to the Superintendent of Documents, Union Building, Washington, D. C. See accompanying notes (page 4) regarding Department publications.)

Report of the Secretary of Agriculture. 1899. Pp. 68.

CONTENTS: Summary—Résumé of the work of the Weather Bureau, the Division of Chemistry, the Division of Entomology, the Division of Botany, the Biological Survey, the Division of Vegetable Physiology and Pathology, the Division of Pomology, the Division of Forestry, the Division of Soils, the Division of Agrostology, the Office of Experiment Stations, the Office of Public Road Inquiries, the Division of Publications, the Library, the Division of Accounts and Disbursements, the Section of Foreign Markets, the Bureau of Animal Industry, the Division of Statistics—Seed distribution—Sugar beets—The market for American horses—Domestic tea production—Leasing the public lands—Abandoned farms—Tropical imports—India rubber—Turkestan alfalfa—Introduction of improved rice—Native drugs—Hemp—Egyptian cotton—New laboratory buildings—A proposed aboretum—Agricultural education.

Experimental Exports of Butter, 1897. By Henry E. Alvord, C. E., Chief of Dairy Division. (Reprinted from Annual Report of the Bureau of Animal Industry.) Pp. 83-136, pl. 1, figs. 5.

The Present Status of Rice Culture in the United States. By S. A. Knapp. Pp. 56, pls. 3. (Bulletin No. 22, Division of Botany.) Price 10 cents.

A history of the origin of rice and its introduction into the United States, the conditions of production, areas of lands suitable for rice culture, American methods of using machinery in rice fields, and other matters relating to the growing of rice and preparing it for market.

Preliminary Report on the Insect Enemies of Forests in the Northwest. An Account of the Results Gained from a Reconnaissance Trip Made in the Spring and Early Summer of 1899. Prepared under the direction of the Entomologist, by A. D. Hopkins, Ph. D., Vice-Director and Entomologist of the West Virginia Agricultural Experiment Station. Pp. 27. (Bulletin No. 21, new series, Division of Entomology.) Price 5 cents.

Farmers' Reading Courses. By L. H. Bailey, M. S., Professor of Horticulture, Cornell University. Pp. 36. (Bulletin No. 72, Office of Experiment Stations.) Price 5 cents.

A history of the organization of farmers' reading courses and a description of the plans under which they are conducted.

Experiment Station Record, Vol. X, No. 12. Pp. xvi, 1101-1208. Price 10 cents.



Experiment Station Record, Vol. XI, No. 3. Pp. vii, 201-300.  
Price 10 cents.

The Record contains numerous abstracts of the publications of the agricultural experiment stations and kindred institutions in this and other countries; articles and editorials on topics of special interest in agricultural science by American and foreign experts and notes on the experiment stations.

NOTE.—For the convenience of those who desire to receive this publication regularly the Superintendent of Documents has decided to fix the price per volume (12 numbers) beginning with Vol. VIII, at \$1, payable in advance.

Smooth Brome-Grass. By P. Beveridge Kennedy, Ph. D., Assistant in the Division of Agrostology. Pp. 9, figs. 2. (Circular No. 18, Division of Agrostology.)

Description and value of this pasture grass.

A German Common School with a Garden. By C. B. Smith, Office of Experiment Stations. Pp. 7, figs. 2. (Circular No. 42, Office of Experiment Stations.)

Description of a German school where practical farming is taught in the school garden.

Monthly List of Publications, November, 1899. Pp. 4. (No. 362, Division of Publications.)

#### REPRINTS.

Dietary Studies at the University of Tennessee in 1895. By Chas. E. Wait, Ph. D., F. C. S., Professor of Chemistry, University of Tennessee. With comments by W. O. Atwater and Chas. D. Woods. Pp. 45. (Bulletin No. 29, Office of Experiment Stations.) Price 5 cents.

Dietary Studies at the University of Missouri in 1895, and Data Relating to Bread and Meat Consumption in Missouri. By H. B. Gibson, S. Calvert, and D. W. May, University of Missouri. With comments by W. O. Atwater and Chas. D. Woods. Pp. 24. (Bulletin No. 31, Office of Experiment Stations.) Price 5 cents.

Food and Nutrition Investigations in New Jersey in 1895 and 1896. By Edward B. Voorhees, A. M., Director New Jersey Agricultural Experiment Stations and Professor of Agriculture, Rutgers College, New Brunswick, N. J. Pp. 40. (Bulletin No. 35, Office of Experiment Stations.) Price 5 cents.

Dietary Studies in New Mexico in 1895. By Arthur Goss, M. S., Professor of Chemistry, New Mexico College of Agriculture and Mechanic Arts. Pp. 23. (Bulletin No. 40, Office of Experiment Stations.) Price 5 cents.

Water-Right Problems of Bear River. By Clarence T. Johnson and Joseph A. Breckons. Pp. 40, pls. 9. (Bulletin No. 70, Office of Experiment Stations.) Price 15 cents.

Tobacco Soils of the United States: A Preliminary Report Upon the Soils of the Principal Tobacco Districts. By Milton Whitney, Chief of Division of Soils. Pp. 47, pls. 13. (Bulletin No. 11, Division of Soils.) Price 10 cents.

Accessions to the Department Library. July-September, 1899. Pp. 21. (Library Bulletin No. 29.) Price 5 cents.



## FARMERS' BULLETINS.

## REPRINTS.

Tomato Growing. By Edward B. Voorhees, M. A., Director of the New Jersey Agricultural Experiment Stations and Professor of Agriculture, Rutgers College, New Brunswick, N. J. Pp. 30. (Farmers' Bulletin No. 76.)

Corn Culture in the South. By S. M. Tracy, M. S. Pp. 24. (Farmers' Bulletin No. 81.)

The Culture of Tobacco. By Otto Carl Butterweck. Pp. 24. (Farmers' Bulletin No. 82.)

Fish as Food. By C. F. Langworthy, Ph. D., Office of Experiment Stations. Pp. 30. (Farmers' Bulletin No. 85.)

## PUBLICATIONS OF THE WEATHER BUREAU.

(For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.)

Report of the Chief of the Weather Bureau for 1899. By Willis L. Moore. (From the Report of the Secretary of Agriculture.) Pp. 23.

The Probable State of the Sky Along the Path of Total Eclipse of the Sun, May 28, 1900, Observations of 1899. Prepared under the direction of Willis L. Moore, Chief, U. S. Weather Bureau. By Frank H. Bigelow, Professor of Meteorology. Pp. 23, charts 4.

Vertical Gradients of Temperature, Humidity, and Wind Direction. A Preliminary Report on the Kite Observations of 1898. Prepared under the direction of Willis L. Moore, Chief, U. S. Weather Bureau, by H. C. Frankenfeld, Forecast Official. Pp. 71, pls. 4, figs. 6. Quarto. Cloth. (Bulletin F, Weather Bureau.)

## Charts of the Weather Bureau—

Meteorological chart of the Great Lakes. December. (Contains data concerning fogs, storms and storm tracks, winds, etc.)

Climate and Crop Bulletin (series of 1899), reporting temperature and rainfall, with special reference to their effect on crops. (No. 30, for November, 1899.)

Snow and Ice Bulletin for Tuesdays, December 5, 12, 19, and 26. (These bulletins are issued weekly during the winter season, based upon data from regular Weather Bureau stations, supplemented by reports from selected voluntary observers.)

Daily Weather Map showing weather conditions throughout the United States and giving forecasts of probable changes.

## PUBLICATIONS NOT AVAILABLE.

The Laisser-Faire Philosophy Applied to the Insect Problem. By C. L. Marlatt. Presidential Address Delivered Before the Eleventh Annual Meeting of the Association of Economic Entomologists, Columbus, Ohio, August 18, 1899. (Reprinted from Bulletin No. 20, new series, Division of Entomology.) Pp. 5-19.

The Crop Reporter. Vol. 1, No. 8. Published by the U. S. Department of Agriculture, under the supervision of the Statistician. Pp. 4.

A three column quarto newspaper devoted to agricultural topics. It is for the benefit and information of crop correspondents exclusively and is mailed to them only.

Approved:

JAMES WILSON,

*Secretary of Agriculture.*

GEO. WM. HILL,

*Editor and Chief.*



## NOTES REGARDING DEPARTMENT PUBLICATIONS.

The publications of the United States Department of Agriculture are of three classes: (1) Serial publications; (2) scientific and technical reports; and, (3) popular bulletins.

The first two classes are issued in limited editions and are not intended for general distribution, being particularly designed for scientific students and for libraries and institutions of learning. They are distributed free to persons cooperating with or rendering the Department some service. Sample copies will be sent if requested, but miscellaneous applicants should apply to the Superintendent of Documents, Union Building, Washington, D. C., to whom all publications not needed for official use, except circulars and bulletins printed by law for free distribution, are turned over in accordance with the following provision of the act providing for the public printing and binding and the distribution of public documents, viz:

SEC. 67. All documents at present remaining in charge of the several Executive Departments, bureaus, and offices of the Government not required for official use shall be delivered to the Superintendent of Documents, and hereafter all public documents accumulating in said Departments, bureaus, and offices not needed for official use shall be annually turned over to the Superintendent of Documents for distribution or sale.

The Farmers' Bulletins treat in a practical manner of subjects of particular interest to farmers, and are issued with a view to the widest possible circulation. These bulletins and circulars of information are free, two-thirds of them being set aside under the law for distribution through Senators, Representatives, and Delegates in Congress. Applications may be addressed to the Secretary of Agriculture, stating both the **number and title** of the publication desired.

The Department has no list to whom all publications are sent; the variety of the subjects treated naturally restricts the distribution of most of them to the sections of country to which they are especially suitable and to specialists. The Monthly List of Publications, issued the first of each month, will be mailed to all who apply for it. In it the titles of the publications are given with a note explanatory of the character of each, thus enabling the reader to make intelligent application for such bulletins and reports as are certain to be of interest to him.

The Department can not undertake to furnish complete sets of either Farmers' Bulletins or other publications.

For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.

For publications mentioned in the Monthly List preceding, **to which a price is attached** (with the exception of those issued by the Weather Bureau), application must be made to the

SUPERINTENDENT OF DOCUMENTS,

UNION BUILDING,

WASHINGTON, D. C.,

accompanied by the price thereof as fixed by him in accordance with the provisions of sections 61 and 67 of the act providing for the public printing and binding, and the distribution of public documents, approved January 12, 1895, and all remittances should be made to him and **not** to the Department of Agriculture; such remittances should be made by postal money order and not by private check or stamps.

The Superintendent of Documents is not permitted to sell more than one copy of any public document to the same person.

*The Superintendent of Documents is not an official of the Department of Agriculture.*

Applications for all other publications of this Department should be addressed to the Secretary of Agriculture, Washington, D. C.

Do not inclose stamps when writing to the Department about publications; it is not necessary in order to secure a reply.

Please advise the Department of any change of address.

The Department has no copies of the Horse Book or the Cattle Book.

The Superintendent of Documents has copies of the Yearbook for sale, as follows: Yearbook 1894, 50 cents; Yearbook 1895, 55 cents; Yearbook 1896, 50 cents; Yearbook 1897, 60 cents; Yearbook 1898, 60 cents.